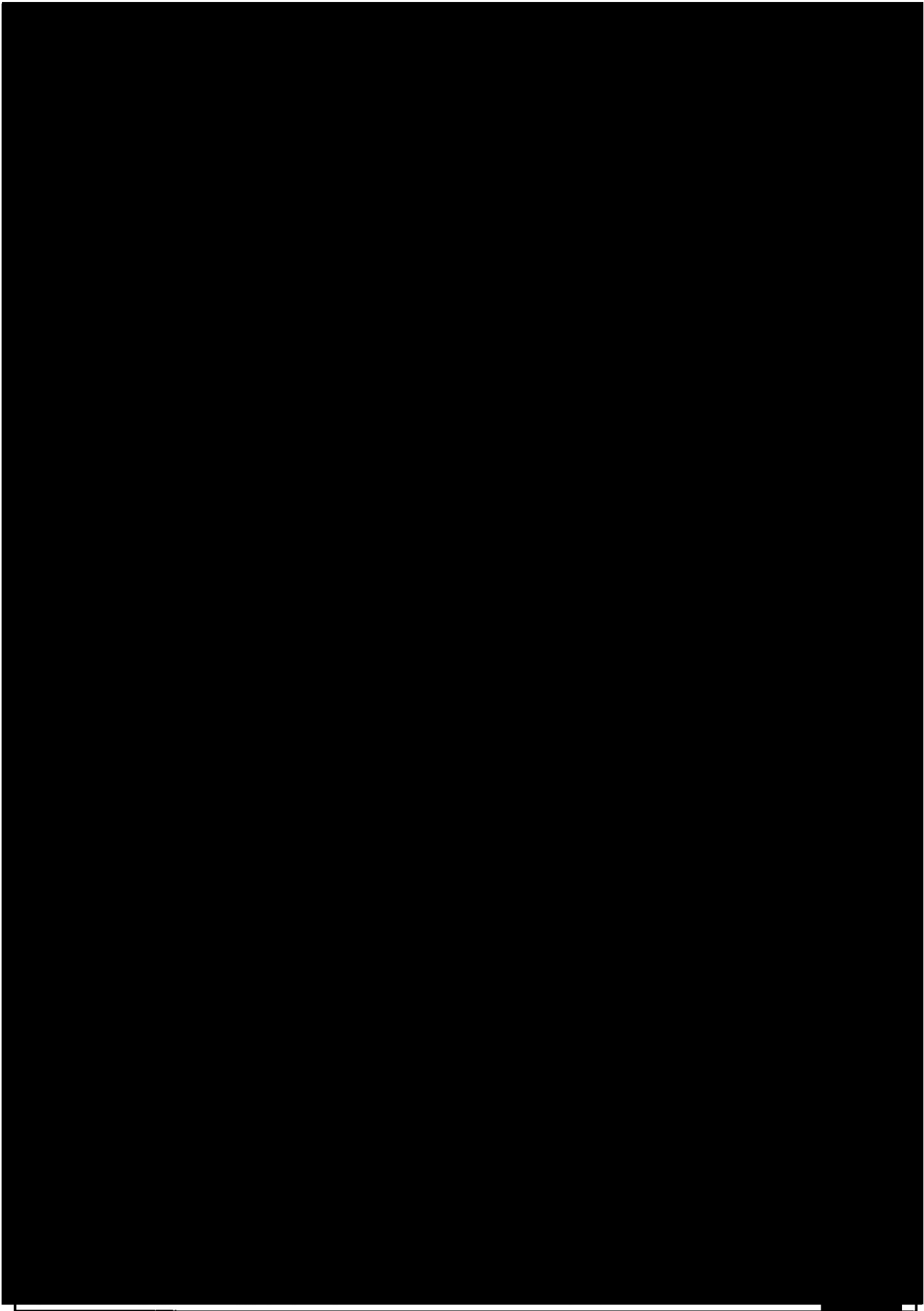
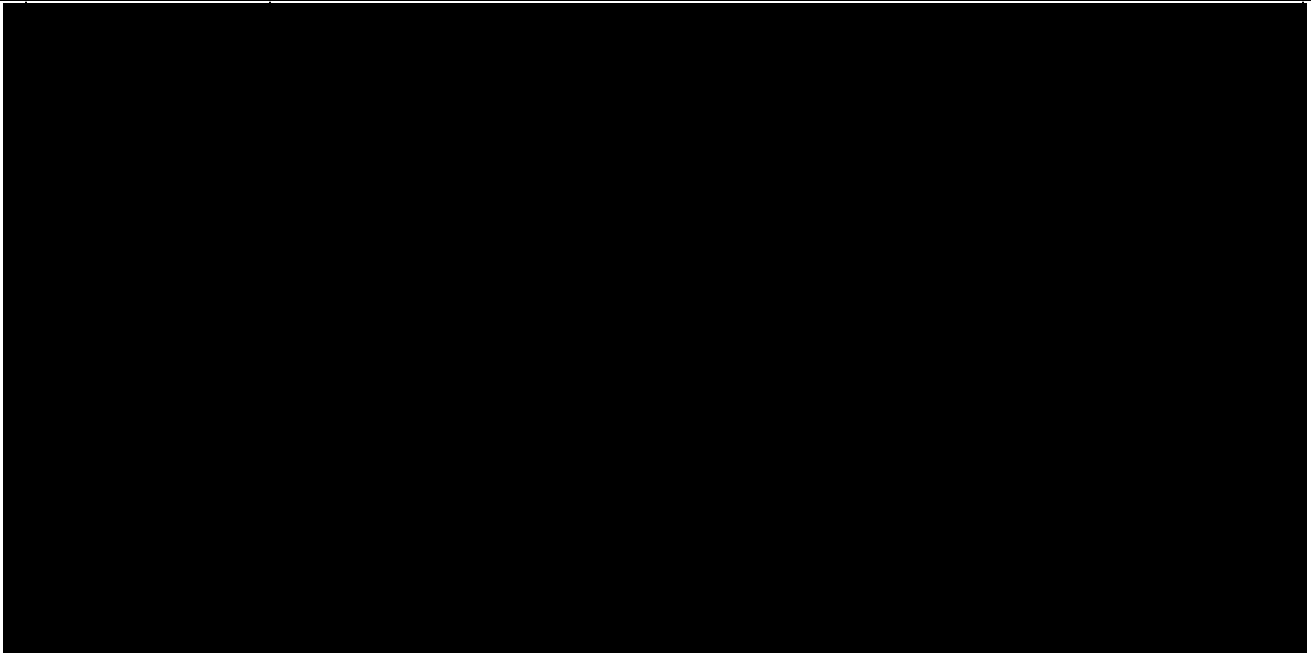
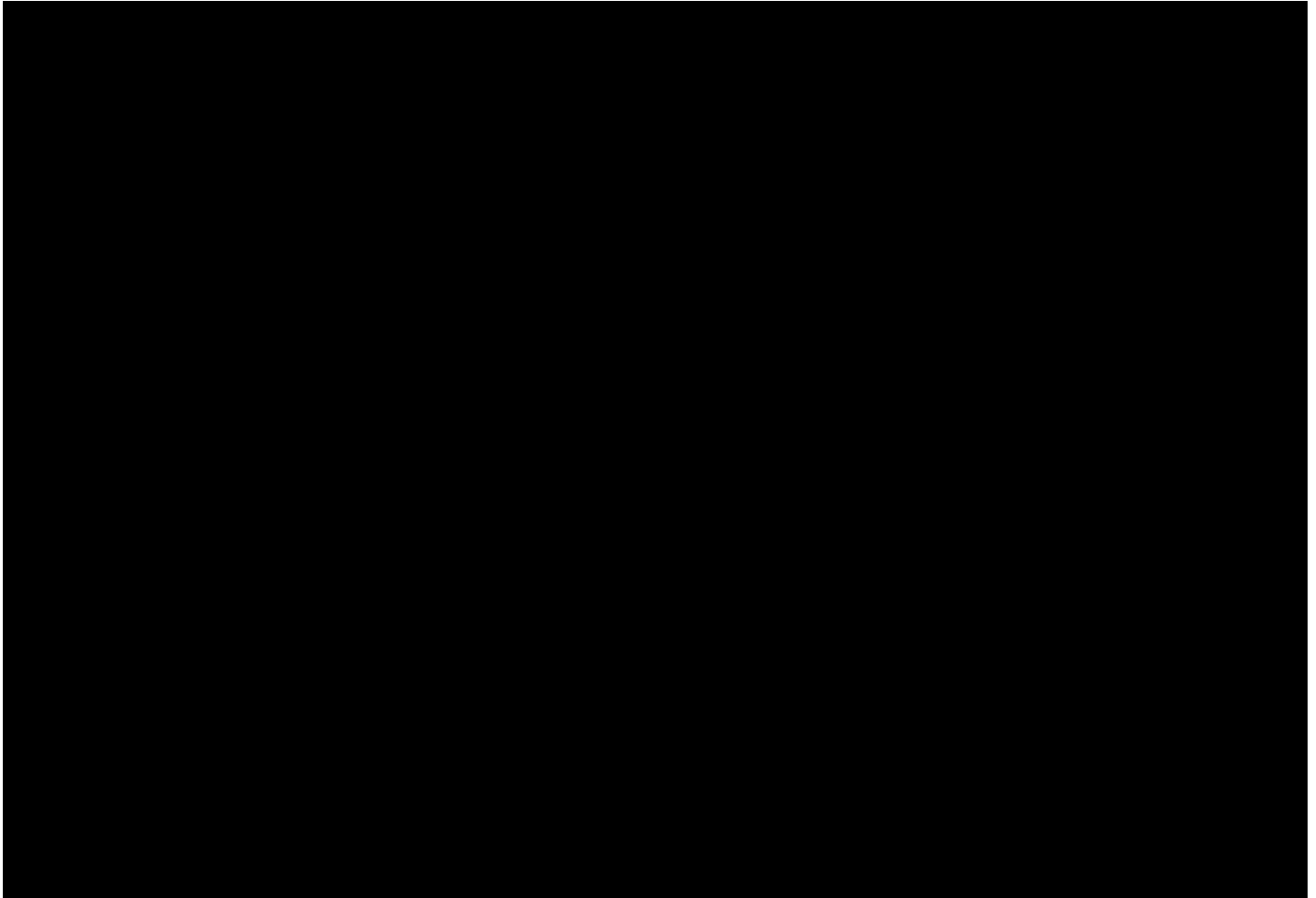
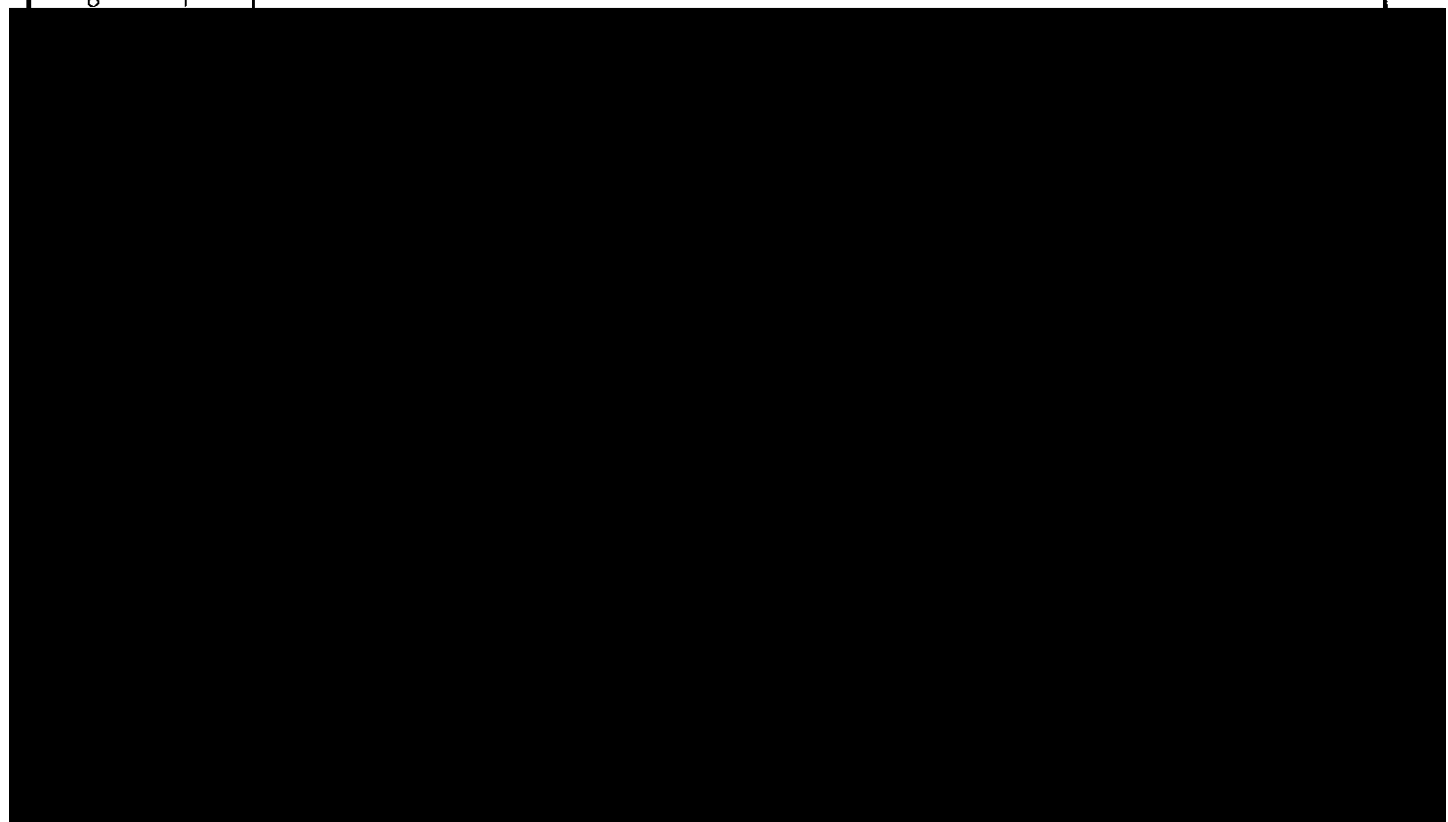
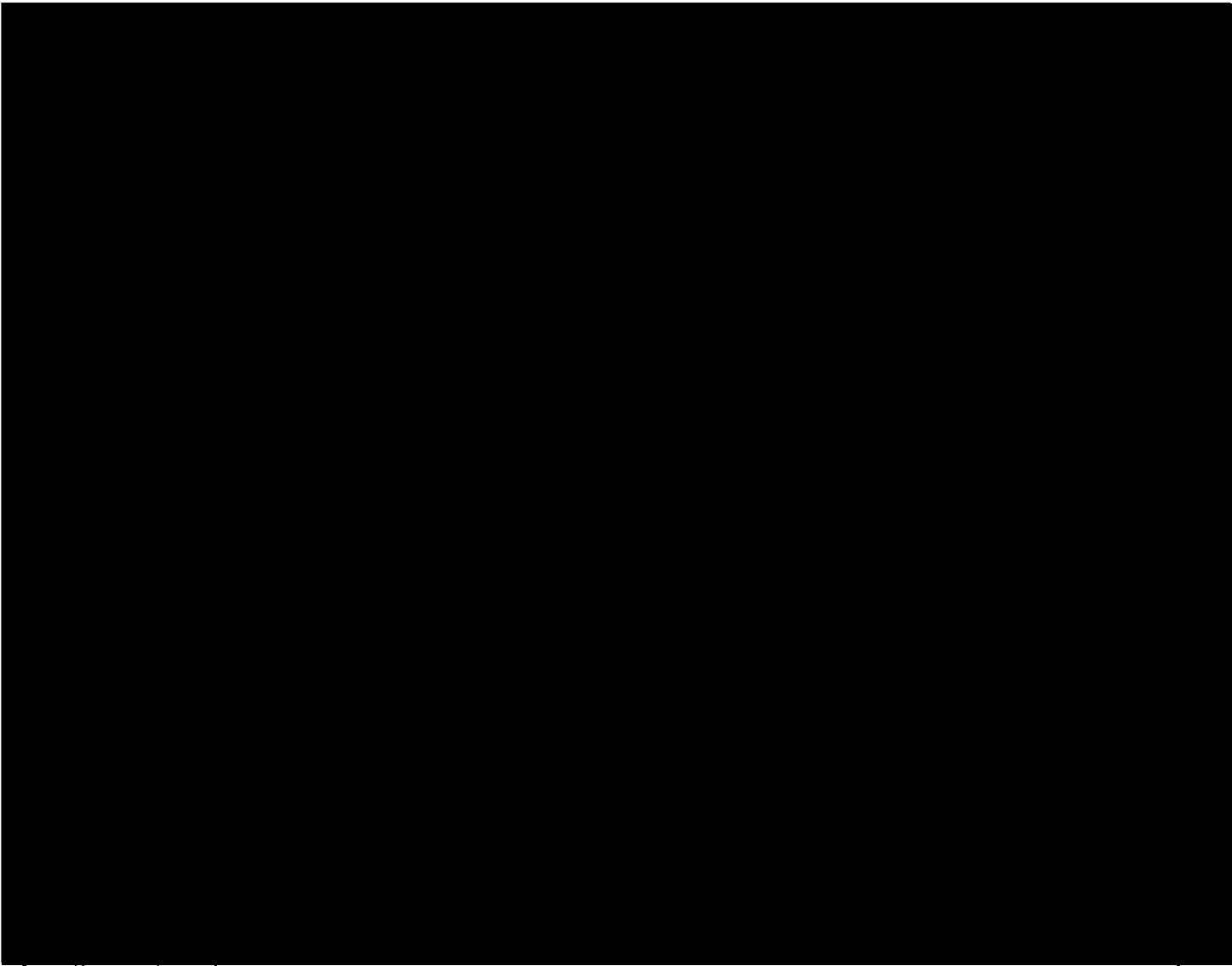


EXHIBIT 1



**TRANSLATION OF
MEDICAL EXAMINATION CERTIFICATE OF CAPTAIN LEE KANG KUK**





**TRANSLATION OF
MEDICAL EXAMINATION CERTIFICATE OF CAPTAIN LEE JUNG MIN**

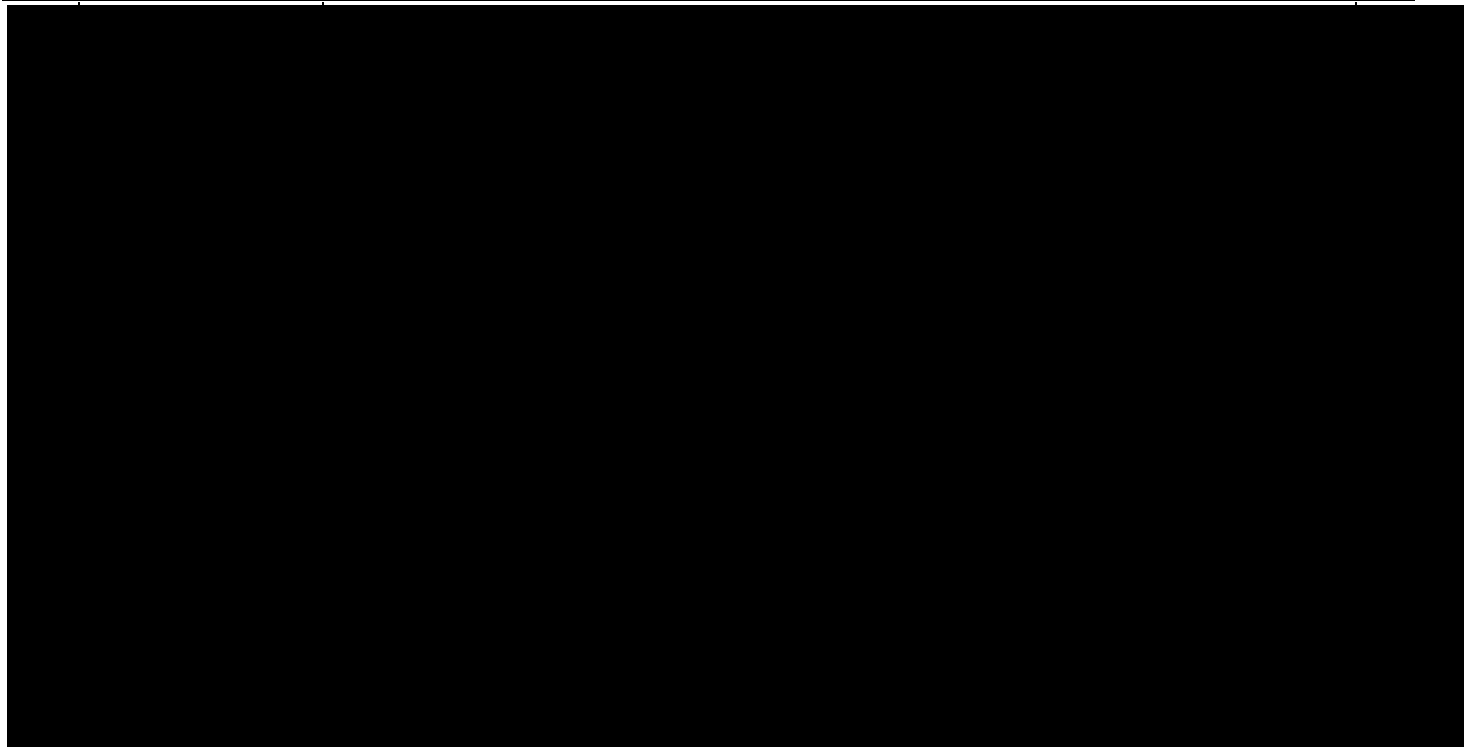
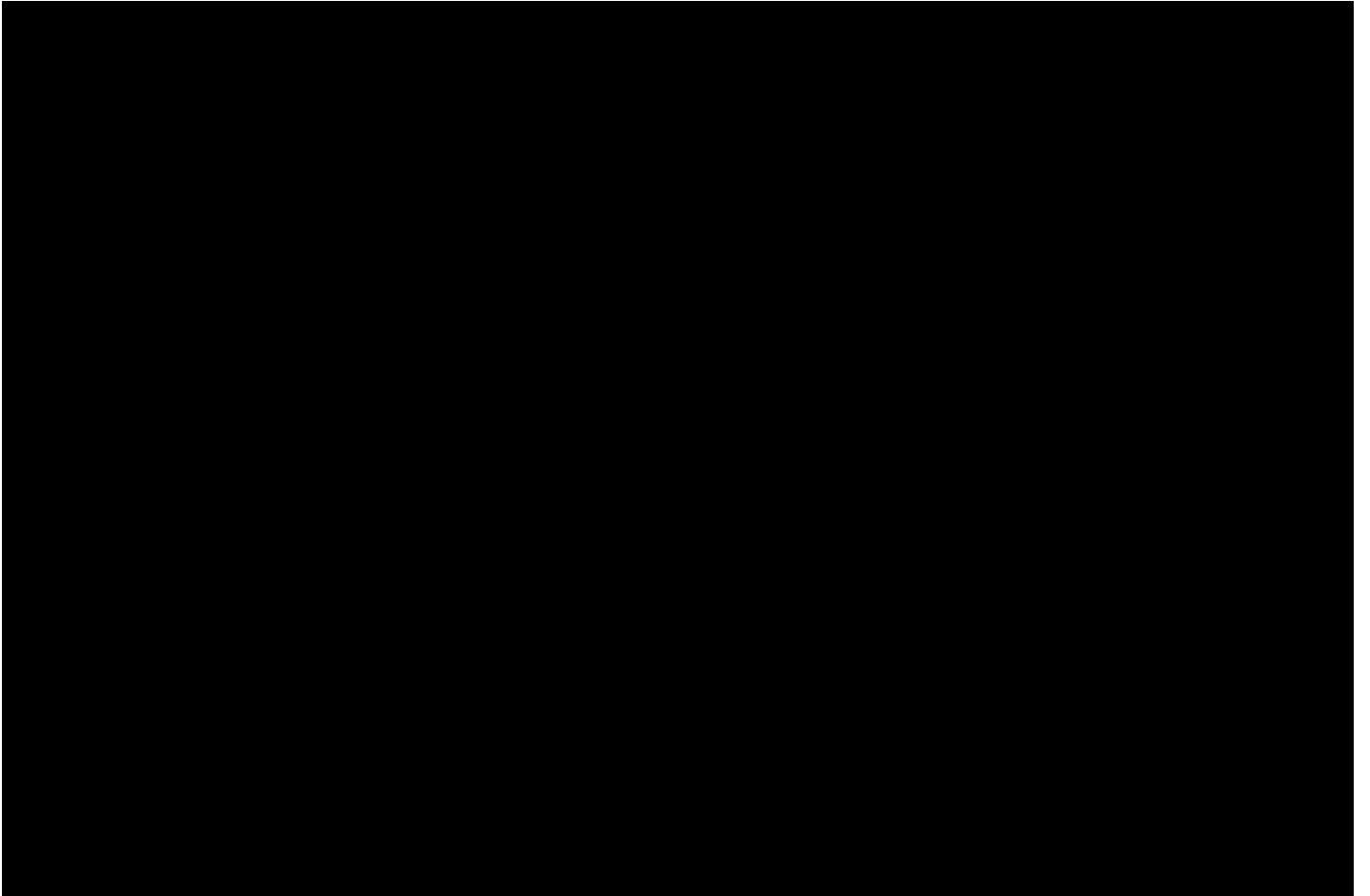


EXHIBIT 2

번호 : 14-424

비행경력증명서

성명 : 이정민

소속 : 6639부대

생년월일(주민번호/여권번호) : 1964.03.15

용도 : 민항사제출

일자	항공기 형식	착륙 횟수	비행임무별 비행시간							비행종류별 비행시간										
			기장	부조종사		<div></div>	학생 조종사	항공 기관사	소계	주간비행				야간비행				계기비행		기타
				기장 감독 하의 조종 행위	기장외 조종사					시계비행		야외비행		시계비행		야외비행		실제 비행	모의 비행	
										기장	기장외 조종사	기장	기장외 조종사	기장	기장외 조종사	기장	기장외 조종사			
19960329	RF4C	795	958:56	0:00	1:15	376:53	20:20	0:00	1357:24	380:21	7:56	608:34	13:10	64:49	0:04	103:49	0:07	178:34	0:00	0:00
	F4D	173	471:55	0:00	0:00	3:25	16:00	0:00	491:20	127:03	6:00	209:00	10:00	34:20	0:00	56:32	0:00	48:25	0:00	0:00
	F5A/B	179	227:19	0:00	0:00	0:00	43:04	0:00	270:23	77:38	14:47	130:39	24:53	1:01	0:11	1:44	0:20	19:10	0:00	0:00
	T37C	120	105:39	0:00	0:00	0:00	23:17	0:00	128:56	35:19	7:46	58:48	12:54	1:12	0:16	2:01	0:27	10:13	0:00	0:00
	T41B	25	1:04	0:00	0:00	0:00	15:56	0:00	17:00	0:25	5:47	0:39	10:09	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	F4ESIM	0	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	23:00	0:00
	계	1292	1764:53	0:00	1:15		118:37	0:00	2265:03	620:46	42:16	1007:40	71:06	101:22	0:31	164:06	0:54	256:22	23:00	0:00

항공법시행규칙 제79조의 규정에 의거 위 사람의 비행경력을 위와 같이 증명함



발급일 : 2014.03.04

발급기관명/주소 : 공군본부 전화번호 : 02-506-1542

발급자 :

공 군 참 모



No.: 14-424

ENGLISH TRANSLATION OF
FLIGHT TIME RECORD

Name: Jung Min Lee

Air Force Unit No.: 6639

Date of Birth: March 15, 1964

Purpose: to be submitted to commercial airline

Date	Aircraft Type	No. of Landings	Flying Duty							Flight Type										
			Captain	First Officer		Trainee Pilot	Flight Engineer	Total	Visual (Day)				Visual (Night)				Instrument Flight		Other	
				Flying under Captain Supervision	Pilot Other Than Captain				Visual Flight		Actual Flight		Visual Flight		Actual Flight		Actual Flight	Simulation Flight		
									Captain	Pilot Other Than Captain	Captain	Pilot Other Than Captain	Captain	Pilot Other Than Captain	Captain	Pilot Other Than Captain				
19960329	RF4C	795	958:56	0:00	1:15	376:53	20:20	0:00	1357:24	380:21	7:56	608:34	13:10	64:49	0:04	103:49	0:07	178:34	0:00	0:00
	F4D	173	471:55	0:00	0:00	3:25	16:00	0:00	491:20	127:03	6:00	209:00	10:00	34:20	0:00	56:32	0:00	48:25	0:00	0:00
	F5A/B	179	227:19	0:00	0:00	0:00	43:04	0:00	270:23	77:38	14:47	130:39	24:53	1:01	0:11	1:44	0:20	19:10	0:00	0:00
	T37C	120	105:39	0:00	0:00	0:00	23:17	0:00	128:56	35:19	7:46	58:48	12:54	1:12	0:16	2:01	0:27	10:13	0:00	0:00
	T41B	25	1:04	0:00	0:00	0:00	15:56	0:00	17:00	0:25	5:47	0:39	10:09	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	F4ESIM	0	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	23:00	0:00
	Total	1292	1764:53	0:00	1:15		118:37	0:00	2265:03	620:46	42:16	1007:40	71:06	101:22	0:31	164:06	0:54	256:22	23:00	0:00

This verifies the named individual’s flight time pursuant to Article 79 of the Ministerial Regulations of the Aviation Act.

Issue Date: March 4, 2014

Issuing Agency: Korea Air Force

Phone: 02-506-1542

Chief of Staff, Korea Air Force

EXHIBIT 3

6.1.6 Training Curriculum

6.1.6.1 Ground School

a. Ground Subjects

TRAINING SUBJECT
1) COURSE INTRODUCTION 2) FCOM (VOLUME 1) 3) FCOM (VOLUME 2) a) Airplane General, Emergency Equip/Drills, Doors, Windows b) Air System (Air conditioning System, Bleed Air) c) Anti-Ice, Rain d) Automatic Flight e) Communications f) Electrical g) Engines, APU h) Fire Protection i) Flight Control j) Flight Instruments, Displays k) Flight Management, Navigation l) Fuel m) Hydraulics n) Landing Gear o) Warning Systems (GPWS/CFIT, Windshear Avoidance and Recovery) p) CBT REVIEW 4) FCTM(Flight Crew Training Manual) 5) FOM (Flight Operation Manual) <u>a) Operation Management</u> <u>b) Weather</u> <u>c) Normal Operation Procedures</u> <u>d) Navigation (RVSM, MNPS, PBN)</u> <u>e) Avoidance & Recovery</u> <u>f) Non-Normal Operation Procedures</u> <u>g) Aviation Security</u> <u>h) Cargo</u> <u>i) Report</u> 6) POM (NORMAL PROCEDURES) 7) CAT – I/II/III 8) QRH (NON-NORMAL PROCEDURES) 9) PERFORMANCE 10) MEL/CDL

- 11) PRM
- 12) RNAV/VNAV Approach
- 13) ETOPS
- 14) CPDLC
- 15) EFB
- 16) AC Difference
- 17) ACAS–Airborne Collision Avoidance System (TCAS)
- 18) The North Pole Operation
- 19) TEST

b. Syllabus of Lectures

1) Course Introduction

- a) Orientation
- b) Outline of Ground Training Course
- c) Review Questions and Supplemental Material

2) FCOM (VOLUME 1)

- a) Bulletins
- b) Limitations
- c) Normal Procedures
- d) Supplementary Procedures

3) FCOM (VOLUME 2)

a) Airplane General, Emergency Equip, Doors, Windows

- ① Dimensions
- ② Instrument Panel
- ③ Instrument Panel, Overhead
- ④ Instrument Panel, Forward
- ⑤ Instrument Panel, aft and side
- ⑥ Controls and Indicators
- ⑦ System Description
- ⑧ EICAS Messages

b) Air System

- ① Controls and Indicators
- ② Air conditioning System Description
- ③ Pressurizing System Description
- ④ Bleed air Duct Description
- ⑤ EICAS Messages

c) Anti-ice Rain

- ① Controls and Indicators
- ② System Description
- ③ EICAS Messages
- d) Automatic Flight
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- e) Communications
 - ① Controls and Indicators
 - ② System Description
 - ③ Interphone System
 - ④ ATC Datalink
 - ⑤ Company Datalink
 - ⑥ EICAS Message
- f) Electrical
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- g) Engines, APU
 - ① Primary Engine Indications
 - ② Secondary Engine Indications
 - ③ Compact Engine Indications
 - ④ Engine System Description
 - ⑤ APU System Description
 - ⑥ EICAS Messages
- h) Fire Protection
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- i) Flight Controls
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- j) Flight Instruments, Displays, ECL
 - ① Controls and Indications
 - ② System Description
 - ③ Primary Flight Display (PFDs)

- ④ Navigation Display
- ⑤ Electronic Checklist Displays
- ⑥ Electronic Checklist Description
- ⑦ EICAS Messages
- k) Flight Management, Navigation
 - ① Controls and Indicators
 - ② Navigation System Description
 - ③ Flight Management System Operation
 - ④ Flight Management Computer
 - ⑤ FMC Preflight,
 - ⑥ FMC Takeoff and Climb
 - ⑦ FMC Cruise
 - ⑧ FMC Descent and Approach
 - ⑨ FMS Alternate Navigation System Description
 - ⑩ EICAS Messages
- l) Fuel
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- m) Hydraulics
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- n) Landing Gear
 - ① Controls and Indicators
 - ② System Description
 - ③ EICAS Messages
- o) Warning System
 - ① GPWS/CFIT
 - ② Windshear Avoidance and Recovery
 - ③ Controls and Indicators
 - ④ System Description
 - ⑤ EICAS Messages
- p) CBT Review
 - ① Airplane General, Emergency Equip, Doors, Windows
 - ② Air System (Air conditioning system, Bleed Air)
 - ③ Anti-ice Rain

- ④ Automatic Flight
 - ⑤ Communications
 - ⑥ Electrical
 - ⑦ Engines, APU
 - ⑧ Fire Protection
 - ⑨ Flight Instruments, Displays, ECL
 - ⑩ Flight Management Navigation
 - ⑪ Fuel
 - ⑫ Hydraulics
 - ⑬ Landing Gear
 - ⑭ Warning Systems
 - ⑮ CPDLC
- 4) FCTM (Flight Crew Training Manual)
- a) General Information
 - b) Ground Operations
 - c) Takeoff, Initial Climb
 - d) Climb, Cruise, Descent, Holding
 - e) Approach, Missed Approach
 - f) Landing
 - g) Maneuvers
 - h) Non-Normal Operations
- 5) FOM (Flight Operation Manual)
- a) Operation Policy
 - b) Crew
 - c) Operation Management
 - d) Weather
 - WX Minima, Wind Limitation, Contaminated Runway, Altimetry
 - De/Anti-icing procedure (Definition of terminology, Procedures Holdover Time and etc.)
 - e) Normal Operation Procedure
 - f) Other than Normal Operation Procedure
 - g) Navigation
 - CLASS I / II Navigations
 - RVSM
 - Operation in MNPS airspace
 - Performance Based Navigation
- ▶ Concept

- ▶ RNAV specification
 - .RNAV 10 (RNP 10)
 - .RNAV 5
 - .RNAV 1 and RNAV 2
 - ▶ RNP specification
 - .General
 - .RNP 4
 - .Basic-RNP 1
 - .RNP APCH
 - h) Avoidance & Recovery
 - GPWS, ACAS (TCAS), Volcanic Ash, Windshear, Thunderstorm, Wake Turbulence Hail, Turbulence
 - i) Operation safety
 - j) Abnormal Operation procedure
 - RTO,
 - Abnormal Procedure of Engine, Pressurization or Fire
 - Flight Crew Incapacitation
 - Diversion
 - Accidents or quasi-Accident Procedures
 - k) Communication
 - HF Radio, Company Radio, ACARS, CPDLC, SATCOM, Distress and Emergency Communication, ADS-B
 - l) Aerial Security
 - m) Cargo
 - n) Passenger Management
 - o) Report
 - p) Supplement
- 6) POM
- a) STP OPS Procedure
 - ① General Information
 - ② Pre-Flight
 - ③ Before Flight
 - ④ Engine Start
 - ⑤ Taxi Out
 - ⑥ Taxi Off
 - ⑦ Climb
 - ⑧ Cruise

- ⑨ Descent
- ⑩ Approach
- ⑪ Landing
- ⑫ After Flight
- ⑬ Standard Callout & Response Procedure
- b) Engineering Information Record
- 7) CAT-I/II/III
 - ① Low Visibility Operations
 - ② Decision Height / Alert Height
 - ③ CAT -II/III Check List / ECL
 - ④ SMGCS
 - ⑤ Take-off and RTO Procedure
 - ⑥ Crew and Aerodrome Requirements
 - ⑦ Missed Approach
- 8) QRH/Non-Normal Procedures
 - ① Non-Normal Checklists
 - ② Maneuvers
 - ▶ Non-Normal Maneuvers
 - ▶ Flight Patterns
 - ③ Aircraft Upset Recovery
- 9) Performance
 - ① Performance In flight / QRH
- 10) MEL/CDL
 - ① Preface
 - ② Mel/ Flight requirement
 - ③ Mel Procedure Manual
 - ④ DDPG Contents
- 11) PRM, VNAV Approach
 - 가) ILS/LDA PRM Approach Procedures
 - 나) Breakout Maneuver
 - 다) Watching a Video (ILS PRM Approach Training Information for General Aviation Pilots)
- 12) RNAV/VNAV Approach
 - 가) RNAV/VNAV Approach
 - POM, FCTM, FCOM
- 13) ETOPS
 - ① Definition

- ② Operation Limitation
 - ③ Long range operation flight plan
 - ④ ETOPS operational procedure
 - ⑤ Performance material when one engine is inoperative
- 14) CPDLC
- ① General concepts
 - ② Up/down link
 - ③ ADS, SATCOM
 - ④ Human factor
 - ⑤ Normal/non-normal procedure
 - ⑥ Phraseology procedure
 - ⑦ Report procedure for DATA LINK events
 - ⑧ EICAS message
 - ⑨ CBT (BOEING FANS-1)
- 15) EFB
- ① GENERAL
 - ② Company Applications Basic Procedures
 - ③ Basic Procedures
 - ④ Company Applications
 - ▶ AMM (Airport Moving MAP)
 - ▶ TERM CHART (Terminal Chart)
 - ▶ OPT (Onboard Performance Tool)
 - ▶ E-DOC (Electronic Documents)
- 16) ACAS-Airborne Collision Avoidance System (TCAS)
- ① Principle of Airborne Collision Avoidance System ② Capacity of Airborne Collision Avoidance System
 - ③ Avoidance Maneuver procedure by Airborne Collision Avoidance System
 - ④ Aviation Department Report Procedure(Air traffic control agency)
 - ⑤ Operational Procedure of Airborne Collision Avoidance System for specified area
 - ⑥ The other specified items of ICAO DOC 8168, Part VIII, Appendix A(ACAS II Train Guidance for Pilot) for Airborne Collision Avoidance System operations
- 16) A/C Difference
- 17) ACAS(TCAS)
- a) Theory of ACAS operation

- ▶ Definition and Range of RA, TA
 - ▶ Function of ACAS : Surveillance, Collision Avoidance etc.
 - ▶ Advisory thresholds
 - ▶ ACAS Limitations– Including ACAS Limitations in case of EGPW Warning
 - ▶ Certain cases of ACAS functions are prohibited
 - Operating Procedure
 - ▶ ACAS control system Operating Procedure / discerning indicators
 - ▶ TA mode Operating Procedures
 - ▶ Cooperation Procedures between Flight Crew Members
 - ▶ Avoidance maneuver in accordance with RA, Report Procedures (To Authorities of Aviation) and etc.
 - Limitations on advisory
 - Statements in ICAO Doc 8168 Pans OPS [Part III, Section 3, Appendix section 3 (ACAS Train Guidance for Pilot)]
- 17) The North Polar Route Operations
- ① General
 - ② Recommendation
 - ③ Normal operation procedure
 - ④ Abnormal operation procedure
 - ⑤ Influence to the crew health by space radioactive rays
 - ※ Refer the north polar route training program
- 18) Test

6.1.6.2 FBS Training (4 Hour / Session X 5 times)

a. Capt. & Co-pilot transition training (Other type aircraft without type rating)

LESSON	TRAINING SYLLABUS
1	<ul style="list-style-type: none"> -PREFLIGHT PROCEDURES -PUSH BACK -ECL Training (Normal Checklist) -ENGINE START -TAXI TO RWY 33L -TAKEOFF -LNAV / VNAV CLIMB -ALT HOLD -MCP CONTROL -AUTOPILOT CONTROL -HOLDING -ILS 34R AUTO LANDING -TAXI TO GATE -ENGINE SHUT DOWN and SECURE CHECKLIST
2	<ul style="list-style-type: none"> -PREFLIGHT -PUSH BACK -ECL Training (Non-Normal Checklist) -AUTO START FAILURE -TAXI TO RWY 15R -LNAV / VNAV CLIMB -FIRE CARGO FWD(AFT) -SYNOPTICS -DSP PNL, EFIS CONTROL PNL -FMC L/R, FMC -NAV ADIRU INERTIAL -HYD AUTO CONTROL L/R -HYD PRESS SYS L/R -HOLDING -ILS 15L -TAXI to Parking

3	<ul style="list-style-type: none"> -PREFLIGHT -PUSH BACK -ENGINE START(Manual Start or Crossbleed Start) -TAXI TO RWY 33L -Engine Failure after V1 -ENG EEC MODE L,R -INTERCEPT COURSE -FROM P/P, WPT -DETERMINE ETA -ENG OIL PRESS L,R -DUAL ENG FAIL/STALL -CABIN ALT and Rapid Descent -Diver to RJBB -HOLDING -ELEC AC BUS L,R -HYD PRESS L+C(or C) -VOR 24L -TAXI to Parking
4	<ul style="list-style-type: none"> -PREFLIGHT -Aborted Engine Start(No oil pressure) -RTO -Packs off takeoff -Gear Lever Locked Down(or Gear Disagree) -Fuel Imbalance -C/I, LRC, RTA -OPT/MAX/RECMD ALT -PROGRESS page, FIX page -ENG FAIL L,R and Driftdown (ETOPS procedure) -ENG In-flight Start -Divert to RKPK -HOLDING / <u>Fuel Jettison</u> -Fuel Jettison -LOCDME 36L then Circle to RWY 18R -CFIT/(E)GPWS – Aural Warning -<u>Missed Approach</u> -LOCDME 36L then Circle to RWY 18R -PAX Evacuation

5	-PREFLIGHT -ENG START -TAXI -RTO -ENG FAIL L,R After V1 then In-Flight Start -PACK L,R -BLEED LOSS L,R,BODY -CABIN ALT and Rapid Descent -Divert to RKSI -FLAPS PRIMARY FAIL (of FLAP/SLAT CONTROL) -ILS33R -FIRE ENG L,R -ILS33R -Missed Approach -EQUIP COOLING OVRD -ILS33R -FIRE APU Below 1,000ft(or FIRE APU After L/D) -PAX EVACUATION
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6.1.6.3 FFS Training

- 1) Training standard & procedure
 - a) Transition training (Other aircraft capt. with type rating)
 - b) Transition training (Other aircraft capt. without type rating)
 - c) Transition training (Other aircraft co-pilot without type rating)
- 2) Training Syllabus For Each Profile
 - a) Transition Training (Other aircraft capt. with type rating)

LESSON	TRAINING SYLLABUS
1	ICN to NRT -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ECL Training (Normal and Non-Normal Checklist) -ABORTED ENG START -TAXI TO 33L -RTO -NORMAL SID CLIMB -FMS WORKINGL(NAV,VNAV) -BLEED LOSS BODY -FLIGHT CHARACTERISTICS

	<ul style="list-style-type: none"> -STALL DEMO & RECOVERY' -SPEED & BANK ANGLE PROTECTION -A/P DISENGAGEMENT -CABIN ALT & RAPID DESCENT -HOLDING -RJAA VOR 16R & M/A -ILS 34L --TAXI TO PARKING (ENGINE SHUTDOWN)
2	<ul style="list-style-type: none"> ICN to NRT (Divert to ICN) -COLD WX OPERATION -COCKPIT PREPARATION -ABORTED ENGINE START -LOW VISIBILITY TAXI (SMGCS) -FLAPS 15 T/O -WINDSHEAR DURING T/O - PACK L,R (or TRIM AIR L,R) -ACAS(TCAS) -ELEC AC BUS L,R -ENG EEC MODE L,R -ENG FAIL L,R & DRIFTDOWN / ENG IN-FLIGHT START -HYD PRESS SYS C+R (or HYD PRESS SYS C+L) -RCSI VORDME 33R ICN to NRT (Divert to ICN) -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -<u>ILS</u> 33R & M/A -ENGLIMIT/SURGE/STALL -VORDME 33R -FIRE APU BELOW 1000FT -PAX EVACUATION
3	<ul style="list-style-type: none"> ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -MEL (APU INOP) -CROSSBLEED START -RTO -NORMAL SID CLIMB -LEVELOFF AT LOW ALT -GROUND PROXIMITY WARNING

	<ul style="list-style-type: none"> -FIRE CARGO AFT(or FWD) -DIVERT TO RKSI / RKSI <u>ILS</u> 15L ICN to NRT(Divert to ICN) - FLAPS PRIMARY FAIL (or FLAP/SLAT CONTROL) -RKSI <u>ILS</u> 15L -L/D RWY CHANGED TO 15R AT 2000FT ICN to NRT (Divert to ICN) -ENG FAIL L,R AT 2ND SEGMENT / ENG IN-FLIGHT START -<u>ILS</u> 15L & M/A -MAIN GEAR BRACE -HOLD FOR FUEL JETTISON -VORDME 15L -GEAR COLLAPSE -PAX EVACUATION
4	<ul style="list-style-type: none"> ICN to SEA (Divert to PUS) -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ABORTED ENG START -WINDSHEAR DURING T/O -WINDOW HEAT L,R FWD -DUAL ENG FAIL -DIVERT TO RKPK -<u>ILS</u> 36L -OVERWEIGHT L/D -LOCDME 36L THEN CIRCLE TO 18R ICN to NRT(Divert to ICN) -ENG FIRE L,R AFTER V1 -ILS 33R & M/A -STABILIZER -<u>ILS</u> 33R -TAXI TO PARKING -APU FIRE DURING TAXI / PASSENGER EVACUATION

5	<p>NRT to ICN(Divert to NRT)</p> <ul style="list-style-type: none"> -COCKPIT PREPARATION (ENGINES RUNNING) -RTO -NORMAL SID DEP -TURBULENCE -FIRE CARGO FWD -SMOKE, FIRE OR FUMES -DIVER TO RJAA / ILS 34L -OVERWEIGHT L/D <p>SFO to ICN (Divert to SFO)</p> <ul style="list-style-type: none"> -KSFO TAKEOFF 28L -FIRE ENG L,R AFTER V1 -HOLDING / FUEL JETTISON -RNAV(GPS) 28L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILSPRM 28L (or LDAPRM 28R) -BREAKOUT MANEUVER (TRAFFIC ALERT) -FLAPS DRIVE(PF) -VISUAL APP' 28L - TAXI TO PARKING
6	<p>IICN to ICN</p> <ul style="list-style-type: none"> -COLD WX OPERATION -COCKPIT PREPARATION -TAXI to 33L -NORMAL X-WIND T/O -WINDSHEAR DURING T/O -FLIGHT CONTROL MODE (or FLIGHT CONTROLS) -ILS 33R -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R & M/A (WINDSHEAR) -UPRT (Upset Prevention and Recovery Training) -VISUAL APP' 33R -FIRE ENG AFTER V1 -ILS 33R & M/A -VISUAL APP' 33R -FIRE APU AFTER L/D / PAX EVACUATION

7	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -TAXI 15R -RTO -Flight Crew Incapacitation -NORMAL X-WIND T/O -FIRE WHEELWELL -EFIS CONTROL PNL L,R -ANTI ICE WING -CABIN ALT (No CAPTAIN in cockpit) and RAPID DESCENT -HOLDING -FUEL JETTISON -HYD PRESS SYS C (or HYD PRESS SYS C+R) -RKSI VORDME 15L ICN to NRT(Divert to ICN) -FIRE ENG L,R AFTER V1 -ILS 15L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 15L -REJECTED L/D AT 1500FT -AUTOTHROTTLE -VISUAL APP' 15L -TAXI TO PARKING
8	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -LOW VISIBILITY TAXI TO 33L (SMGCS) -RTO -NORMAL X-WIND T/O -FIRE WHEELWELL -ELEC DRIVE GEN L,R -CABIN ALT and RAPID DESCENT -HOLDING / FUEL JETTISON -RKSI VORDME 15L ICN to NRT(Divert to ICN) -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R -FIRE ENG L,R AFTER V1 -ILS 33R -REJECTED L/D AT 100FT -VISUAL APP' 33R -TAXI TO PARKING
CHECK	CHECK PROFILE 참조

b) Transition Training (Other aircraft capt. without type rating)

LESSON	TRAINING SUBJECT
1	ICN to NRT -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ECL Training (Normal and Non-Normal Checklist) -ABORTED ENG START -TAXI TO 33L -RTO -NORMAL SID CLIMB -FMS WORKINGL(NAV,VNAV) -BLEED LOSS BODY -FLIGHT CHARACTERISTICS -STALL DEMO & RECOVERY' -SPEED & BANK ANGLE PROTECTION -A/P DISENGAGEMENT -CABIN ALT & RAPID DESCENT -HOLDING -RJAA VOR 16R & M/A - <u>ILS</u> 34L -TAXI TO PARKING -ENGINE SHUTDOWN
2	ICN to ICN -COCKPIT PREPARATION -MANUAL ENGINE START -ENG FAIL L,R AFTER V1 -FIRE ENG L,R AFTER V1 - <u>ILS</u> 33R & M/A -FMC FAIL - <u>ILS</u> 33R -LOW VISIBILITY T/O 15R -RETURN TO RJAA -ENG SVR DAMAGE OR SEP -VORDME 15L -FLAPS 15 T/O -VISUAL TOUCH & GO / VISUAL RWY 15L -TAXI TO PARKING

3	<p>ICN to NRT (Divert to ICN)</p> <ul style="list-style-type: none"> -COLD WX OPERATION -COCKPIT PREPARATION -ABORTED ENGINE START -LOW VISIBILITY TAXI (SMGCS), <u>Practice 90° Turns</u> -FLAPS 15 T/O -WINDSHEAR DURING T/O - PACK L,R (or TRIM AIR L,R) -ACAS(TCAS) -ELEC AC BUS L,R -ENG EEC MODE L,R -ENG FAIL L,R & DRIFTDOWN / ENG IN-FLIGHT START -HYD PRESS SYS C+R (or HYD PRESS SYS C+L) -RKSI VORDME 33R <p>ICN to NRT (Divert to ICN)</p> <ul style="list-style-type: none"> -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R & M/A -ENGLIMIT/SURGE/STALL -VORDME 33R -FIRE APU BELOW 1000FT -PAX EVACUATION
4	<p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -COCKPIT PREPARATION -MEL (APU INOP) -CROSSBLEED START -RTO -NORMAL SID CLIMB, <u>LEVELOFF AT LOW ALT</u> -GROUND PROXIMITY WARNING <u>System Response Training</u> -FIRE CARGO AFT(or FWD) -DIVERT TO RKSI / RKSI <u>ILS 15L</u> <p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> - FLAPS PRIMARY FAIL (or FLAP/SLAT CONTROL) -RKSI ILS 15L -L/D RWY CHANGED TO 15R AT 2000FT <p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -ENG FAIL L,R AT 2ND SEGMENT / ENG IN-FLIGHT START -ILS 15L & M/A -<u>CFIT/(E)GPWS – Aural Warning & M/A</u> -MAIN GEAR BRACE -HOLD FOR FUEL JETTISON -VORDME 15L -GEAR COLLAPSE <p>-PAX EVACUATION</p>

5	<p>ICN to SFO(Divert to PUS)</p> <ul style="list-style-type: none"> -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ABORTED ENG START -WINDSHEAR DURING T/O -WINDOW HEAT L,R FWD -DUAL ENG FAIL -DIVERT TO RKPK -ENG DME RWY 36L THEN CIRCLE TO RWY 18R (One Eng) -ENG DME RWY 36L THEN CIRCLE TO RWY 18R (Two Eng) ICN to NRT(Divert to ICN) -ENG FIRE L,R AFTER V1 -ILS 33R & M/A -STABILIZER -ILS 33R -TAXI TO PARKING -APU FIRE DURING TAXI / PASSENGER EVACUATION
6	<p>NRT to ICN(Divert to NRT)</p> <ul style="list-style-type: none"> -COCKPIT PREPARATION (ENGINES RUNNING) -RTO -NORMAL SID DEP -TURBULENCE -FIRE CARGO FWD, <u>SMOKE, FIRE OR FUMES</u> -DIVER TO RJAA / <u>ILS 34L</u> -<u>CFIT/(E)GPWS – Use of TERR Mode</u> -OVERWEIGHT L/D -<u>180 Degree Turns on RWY (Normal and/or Pivot Turn)</u> <u>SFO to ICN (Divert to SFO)</u> -KSFO TAKEOFF 28L -FIRE ENG L,R AFTER V1 -HOLDING / FUEL JETTISON -RNAV(GPS) 28L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -<u>ILSPRM 28L (or LDAPRM 28R)</u> -BREAKOUT MANEUVER (TRAFFIC ALERT) -FLAPS DRIVE(PF) -VISUAL APP' 28L -TAXI TO PARKING

7	IICN to ICN -COLD WX OPERATION -COCKPIT PREPARATION -TAXI to 33L -NORMAL X-WIND T/O -WINDSHEAR DURING T/O -FLIGHT CONTROL MODE (or PRI FLIGHT COMPUTERS) -ILS 33R -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R & M/A (WINDSHEAR) - UPRT (Upset Prevention and Recovery Training) -VISUAL APP' 33R -FIRE ENG AFTER V1 -ILS 33R & M/A -VISUAL APP' 33R -FIRE APU AFTER L/D / PAX EVACUATION
8	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -TAXI 15R -RTO -Flight Crew Incapacitation -NORMAL X-WIND T/O -FIRE WHEELWELL -EFIS CONTROL PNL L,R -ANTI ICE WING -CABIN ALT (No CAPTAIN in cockpit) and RAPID DESCENT -HOLDING -FUEL JETTISON -HYD PRESS SYS C (or HYD PRESS SYS C+R) -RKSI VORDME 15L ICN to NRT(Divert to ICN) -FIRE ENG L,R AFTER V1 -ILS 15L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 15L -REJECTED L/D AT 1500FT -AUTOTHROTTLE -VISUAL APP' 15L -TAXI TO PARKING

9	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -LOW VISIBILITY TAXI TO 33L (SMGCS) -RTO -NORMAL X-WIND T/O -FIRE WHEELWELL -ELEC DRIVE GEN L,R -CABIN ALT and RAPID DESCENT -HOLDING / FUEL JETTISON -RKSI VORDME 15L ICN to NRT(Divert to ICN) -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START - <u>ILS</u> 33R -FIRE ENG L,R AFTER V1 - <u>ILS</u> 33R -REJECTED L/D AT 100FT -VISUAL APP' 33R -TAXI TO PARKING
CHECK	Refer to CHECK PROFILE

c) F/O transition training (Other type aircraft without type rating)

LESSON	TRAINING SUBJECT
1	ICN to NRT -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ECL Training (Normal and Non-Normal Checklist) -ABORTED ENG START -TAXI TO 33L -RTO -NORMAL SID CLIMB -FMS WORKINGL(NAV,VNAV) -BLEED LOSS BODY -FLIGHT CHARACTERISTICS -STALL DEMO & RECOVERY -SPEED & BANK ANGLE PROTECTION -A/P DISENGAGEMENT -CABIN ALT & RAPID DESCENT -HOLDING -RJAA VOR 16R & M/A -ILS 34L -TAXI TO PARKING -ENGINE SHUTDOWN

2	ICN to ICN -COCKPIT PREPARATION -MANUAL ENGINE START -ENG FAIL L,R AFTER V1 -FIRE ENG L,R AFTER V1 - <u>ILS</u> 33R & M/A -FMC FAIL - <u>ILS</u> 33R -LOW VISIBILITY T/O 15R -RETURN TO RJAA -ENG SVR DAMAGE OR SEP -VORDME 15L -FLAPS 15 T/O -VISUAL TOUCH & GO / VISUAL RWY 15L -TAXI TO PARKING
3	ICN to NRT(Divert to ICN) -COLD WX OPERATION -COCKPIT PREPARATION -ABORTED ENGINE START -LOW VISIBILITY TAXI (SMGCS), <u>Practice 90° Turns</u> -FLAPS 15 T/O -WINDSHEAR DURING T/O -TRIM AIR L,R (or PACK L,R) -ACAS(TCAS) -ELEC AC BUS L,R -ENG EEC MODE L,R -ENG FAIL L,R & DRIFTDOWN / ENG IN-FLIGHT START -HYD PRESS SYS C+L (or HYD PRESS SYS C+R) -RKSI VORDME 33R ICN to NRT(Divert to ICN) -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START - <u>ILS</u> 33R & M/A -ENGLIMIT/SURGE/STALL -VORDME 33R -FIRE APU BELOW 1000FT -PAX EVACUATION

4	<p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -COCKPIT PREPARATION -MEL (MAIN GEAR STEERING SYSTEM) -MANUAL START (or CROSSBLEED START) -RTO -NORMAL SID CLIMB, <u>LEVELOFF AT LOW ALT</u> -GROUND PROXIMITY WARNING <u>System Response Training</u> -ELEC DRIVE GEN L,R -FIRE CARGO AFT(or FWD) -DIVERT TO RKSI / RKSI ILS 15L <p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -FLAP/SLAT CONTROL (or FLAPS PRIMARY FAIL) -RKSI ILS 15L -L/D RWY CHANGED TO 15R AT 2000FT <p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -ENG FAIL L,R AT 2ND SEGMENT / ENG IN-FLIGHT START -<u>ILS 15L & M/A</u> -<u>CFIT/(E)GPWS</u> – Aural Warning & M/A -MAIN GEAR BRACE -HOLD FOR FUEL JETTISON -VORDME 15L -GEAR COLLAPSE -PAX EVACUATION
5	<p>ICN to SFO(Divert to PUS)</p> <ul style="list-style-type: none"> -PRELIMINARY PREFLIGHT PROCEDURE -COCKPIT PREPARATION -ABORTED ENG START -WINDSHEAR DURING T/O -WINDOW HEAT L,R FWD -DUAL ENG FAIL -DIVERT TO RKPK -<u>LOC DME RWY 36L THEN CIRCLE TO RWY 18R (One Eng)</u> -<u>LOC DME RWY 36L THEN CIRCLE TO RWY 18R (Two Eng)</u> <p>ICN to NRT(Divert to ICN)</p> <ul style="list-style-type: none"> -ENG FIRE L,R AFTER V1 -<u>ILS 33R & M/A</u> -STABILIZER -<u>ILS 33R</u> -TAXI TO PARKING -APU FIRE DURING TAXI / PASSENGER EVACUATION

6	<p>NRT to ICN(Divert to NRT)</p> <ul style="list-style-type: none"> -COCKPIT PREPARATION (ENGINES RUNNING) -RTO -NORMAL SID DEP -TURBULENCE -FIRE CARGO FWD, SMOKE, FIRE OR FUMES -DIVER TO RJAA / ILS 34L -CFIT/(E)GPWS – Use of TERR Mode -OVERWEIGHT L/D -180 Degree Turns on RWY (Normal and/or Pivot Turn) <p>SFO to ICN (Divert to SFO)</p> <ul style="list-style-type: none"> -KSFO TAKEOFF 28L -FIRE ENG L,R AFTER V1 -HOLDING / FUEL JETTISON -RNAV(GPS) 28L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILSPRM 28L (or LDAPRM 28R) -BREAKOUT MANEUVER (TRAFFIC ALERT) -FLAPS DRIVE(PF) -VISUAL APP' 28L -TAXI TO PARKING
7	<p>ICN to ICN</p> <ul style="list-style-type: none"> -COLD WX OPERATION -COCKPIT PREPARATION -TAXI to 33L -NORMAL X-WIND T/O -WINDSHEAR DURING T/O -PRI FLIGHT COMPUTERS (or FLIGHT CONTROL MODE) -ILS 33R -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R & M/A (WINDSHEAR) -UPRT (Upset Prevention and Recovery Training) -VISUAL APP' 33R -FIRE ENG AFTER V1 -ILS 33R & M/A -VISUAL APP' 33R -FIRE APU AFTER L/D / PAX EVACUATION

8	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -TAXI 15R -RTO -Flight Crew Incapacitation -NORMAL X-WIND T/O -FIRE WHEELWELL -EFIS CONTROL PNL L,R -ANTI ICE WING -CABIN ALT (No CAPTAIN in cockpit) and RAPID DESCENT -HOLDING -FUEL JETTISON -HYD PRESS SYS C (or HYD PRESS SYS C+R) -RKSI VORDME 15L ICN to NRT(Divert to ICN) -FIRE ENG L,R AFTER V1 -ILS 15L -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 15L -REJECTED L/D AT 1500FT -AUTOTHROTTLE -VISUAL APP' 15L -TAXI TO PARKING
9	ICN to NRT(Divert to ICN) -COCKPIT PREPARATION -ABORTED ENG START -LOW VISIBILITY TAXI TO 33L (SMGCS) -RTO -NORMAL X-WIND T/O -FIRE WHEELWELL -ELEC DRIVE GEN L,R -CABIN ALT and RAPID DESCENT -HOLDING / FUEL JETTISON -RKSI VORDME 15L ICN to NRT(Divert to ICN) -ENG FAIL L,R AFTER V1 / ENG IN-FLIGHT START -ILS 33R -FIRE ENG L,R AFTER V1 -ILS 33R -REJECTED L/D AT 100FT -VISUAL APP' 33R -TAXI TO PARKING
CHECK	CHECK PROFILE

6.1.6.4 LOFT (Q-LOFT or ALOFT)

a. Objectives

- 1) Improve flight crew ability to respond to actual flight environment.
- 2) Improve CRM SKILL and management ability in situation with high workload.

b. Scenario

- 1) Use each A/C type profile

6.1.6.5 Local Flight Training: FFS 2 hours

a. Training Conditions

- 1) Phase III simulator
- 2) Special airport or airport with vulnerable safety (Strong wind, Obstacles, takeoff and landing procedures, etc.)
- 3) Flight crew with qualification stated in 3.3.2.2 of this regulation.

b. Training details

- 1) At least 6 times of landings (2 times shall be full stop)
- 2) Repeated training of Touch & Go with visual circuit (2 times of manual flight)
- 3) Approach and landing trainings to overcome hazards in relevant airports (Non-precision approach, local procedure, etc.)

6.2 B777 Recurrent Training Course

6.2.1 Course Objectives

The purpose of this course is to enable the flight crew to receive updated necessary aeronautical knowledge and flight skills for flight safety. Therefore, the flight crew shall attend ground school, flight training, and take check.

6.2.2 Trainee Standards

; See Regulation Chapter 3, Article 2, Item 3

6.2.3 Operational Standards

a. Ground School : Twice a year (Over 12 hours yearly)

Subjects listed in Appendix 8.3.4.13 of Flight Safety Regulations shall be trained either every 12 month or 36 month period (refer to training time table). Each subject can be done separately if contents are excessive.

b. Ground School Training Timetable (Subjects for kinds of Airplanes)

S u b j e c t s	Odd year		Even year	
	First half of the year	Second half of the year	First half Of the year	First half of the year
1. A/C General, Emergency Equip, Doors, Windows			O	
2. Air Systems				<u>O</u>
3. Anti-Ice Rain				O
4. Automatic Flight		O		
5. Communications			O	
6. Electrical				O
7. Engines, APU	O			
8. Fire protection	O	O	O	O
9. Flight Controls				O
10. Flight Instruments, Displays	O			
11. Flight Management, Navigation		O		
12. Fuel	O			
13. Hydraulics			O	
14. Landing Gear		O		
15. Warning Systems				O
16. CAT-II/III	O		O	
17. PRM		O		O
18. MEL		O		
19. PERFORMANCE	O		O	
20. RNAV/VNAV				O
21. ETOPS	O		O	
22. EFB		O		
23. NORTH POAL ROUTE OPERATION				O
24. CPDLC			<u>O</u>	
25. FOM (*GENERAL SUBJECT))		O		
26. **EMERGENCY EQUIPMENT TRAINING	O		O	
27. ***OTHERS NEEDED	SEE NOTE			
28. ECL (changed contents or announcement messages and etc.)	O	O	O	O

NOTE)

* General Subject: Relevant subjects per each A/C type among a)~i) of 1) in Flight Safety Regulations Appendix 8.3.4.13 and Operation Policy (including Contingency Fuel 5% Procedure)

**** Emergency Equipment Usage:** *Following subjects shall be conducted based on Appendix 8.3.4.13 “d” of Flight Safety Regulations.*

a. Usage and location of aircraft emergency equipment

b. Usage and location of all types of exits

***** Others items needed**

SUBJECTS	TRAINING CYCLE
CFIT/(E)GPWS	EVERY YEAR (FIRST HALF OF THE YEAR)
ACAS (TCAS)	EVERY YEAR (FIRST HALF OF THE YEAR)
Windshear Avoidance and Recovery	EVERY YEAR (SECOND HALF OF THE YEAR)
High Energy Management	EVERY YEAR (SECOND HALF OF THE YEAR)
RNAV 5, RNAV 1 & 2, Basic-RNP 1, RNP APCH	Every year (FIRST HALF OF THE YEAR)
UPRT (Upset Prevention and Recovery Training)	EVERY 3 YEARS (FIRST HALF OF THE YEAR)
Flight Crew Incapacitation	EVERY 3 YEARS (SECOND HALF OF THE YEAR)

Note) However, each subject content can be trained with related subjects during current training.

c. Flight Training and Evaluation Cycle

1) Flight Training and Evaluation cycle

Classification	Odd year		Even year	
	First half of the year	Second half of the year	First half of the year	Second half of the year
CAP	T, P	T, P(L)	T, P	T, P(L)
F/O	T, P	T, P(L)	T, P	T, P(L)

Note)

1. T : Simulator Training, P : Proficiency Check, L : LOFT

2. One of two recurrent evaluations can be replaced with LOFT using the same A/C type simulator designated by the director of regional aviation administration in accordance with Article 154 of the Aviation Law Enforcement Regulations.

2) Subjects Cycle

Classification	EVENTS C : Captain F: First Officer B : Both CF: Crew Concept O : Option	Training				CHECK	REMARKS
		Odd Year		Even year			
		First half	2 nd First	First half	2 nd First		
Flight preparation	Examination.	B		B		B	Oral or written Test
	Exterior Inspection		C				Being omitted When Simulator Training
	Cockpit Preparation	B	B	B	B	B	
Ground	Performance Limitation		B		B		In LOFT scenario
	Cockpit Management	C		C			
	Push Back	C		C			
	Engines Starting	C		C		C	
	Taxi	C		C		C	Possible With SMGCS Training
Take Off	Normal <u>T/O</u>	B		B		B	Possible With The other Subjects
	Instrument <u>T/O</u> (LOW VIS T/O)	B		B		B	Possible With Engine Failure during Take-off Possible With CAT Training
	Cross Wind <u>T/O</u>	B		B		B	Possible With The other Subjects Under Maximum in Operation Regulation
	Rejected T/O	C		C		C	Possible With CAT Training
	Engine <u>Failure</u> after V1	B		B		B	Possible With CAT Training
	Engine <u>Failure</u> at 2 nd Segment		C				
	At least 1 low visibility takeoff training shall be included under authorized weather minimum.						
Climb	SID	B		B		B	Can be omitted When Arrivals check
	Normal Climb		B				
	Eng <u>Failure</u> During Climb				C		

Classification	EVENTS C : Captain F : First Officer B : Both CF: Crew Concept O : Option	Training				CHECK	REMARKS
		Odd Year		Even year			
		First half	2 nd First	First half	2 nd First		
Cruise	En-route Eng Failure & Restart		C				
Descent	Normal Descent				B		
	MAX Rate Descent		C				
	Arrival Procedure	B		B		B	Can be Omitted When SID Check
Approach	Visual Approach (High Energy Management)		B		B		Possible With The other Subjects
	Visual Approach with One Eng Inoperative				C		For Only Captain With Visual approach
	Visual Approach with Slat/Flap Malfunction		C				For Only Captain Can be Omitted Because of Alternate Flap System
	ILS Approach and Normal Landing	B		B		B	Possible With CAT Training
	ILS Approach with One Engine Inoperative	B		B		B	Possible With CAT Training
	Non-Precision Approach	B		B		B	Only 1 st non-Precision approach shall be examined
	Non-Precision Approach with One Eng Inoperative				B		
	Missed App from ILS Approach	B		B		B	CA Possible With CAT Training
	Missed App From Non-Precision App.		B				

Classification	EVENTS C : Captain F : First Officer B : Both CF : Crew Concept O : Option	Training				CHECK	REMARKS
		Odd Year		Even year			
		1 st half	2 nd half	1 st half	2 nd half		
Approach	Missed Approach with Eng Failure	B		B		B	Possible With CAT Training
	Rejected L/D	B		B			Possible With CAT Training or Missed App'Training
L/D	L/D from Precision Approach	B		B		B	
	L/D from Precision Approach with One Eng Inoperative	B		B		B	
	L/D with Flap/Slat Malfunction		C				Only Captain Test may be omittable thanks to having Alternate Flap System
	L/D from Circling Approach	B		B		B	Omittable when company Minima is more than 1000ft and 3miles
	Crosswind L/D	B		B		B	May be conducted together with other subjects. Apply values below maximum authorized in FOM
	* Landing operation can be connected with Approach subject and has to be executed manual landing at least 2 times.						
Others	Holding	CF		CF		CF	Check can be omitted
	ACAS(TCAS) Training	CF		CF		CF	Evaluation on every odd year
	CFIT / (E)GPWS		CF				
	Terrain Avoidance/CFIT /Wind Shear Avoidance/ Microburst/Volcanic ash/ Turbulence/Thunderstorm		CF		CF		Train about 2 required items in year
	PRM		CF		CF		
	Flight Crew Incapacitation						CF : Every 3 years (Second Half of the year)

Normal/ Non Normal Procedure	Pressurization System				<u>CF</u>		
	Air Conditioning System				CF		
	Fuel & Oil System	CF					
	Electrical System				CF		
	Hydraulic System			CF			
	Flight Control System				CF		

Classification	EVENTS C : Captain F : First Officer B : Both CF :Crew Concept O : Option	Training				CHECK	REMARKS
		Odd Year		Even year			
		First half	2 nd First	First half	2 nd First		
Abnormal and Alternate System	FMS		CF				
	Anti/De-icing System				CF		
	Stall Protection			CF			
	Weather Radar System	CF					
	Flight Instrument Malfunction	CF					
	Communication System			CF			
	Navigation System		CF				
	Auto Flight System		CF				
	Approach and landing Aids		CF				
	● Training is possible in all flight segments (including briefing and ground operation). For this training separate specific subject is not required						
Emergency System	Fire Protection	B	CF	B	CF	O	
	Smoke Control		B			O	
	Engine Malfunction	B				O	
	Fuel Dumping		CF			O	
	Electrical Malfunction				B	O	
	Hydraulic System Malfunction			B		O	
	Air System Malfunction				B	O	

	Flight Control System Malfunction				B	0	
	Landing Gears System Malfunction		B			0	
	Flaps System Malfunction		<u>B</u>			0	
	Passenger Evacuation	CF		CF		0	

* NOTE : Check for second half of the year can be substituted with LOFT.

6.2.4 Operational Method

- The training manager of A/C type training shall report the recurrent ground school plan which includes instructors, subject contents to Flight Crew Training General Manager.
- The training manager of A/C type shall review the instruction guide, subject planning made by selected G/S instructors and report the final to Flight Crew Training General Manager.
- Flight Crew Training General Manager shall confirm the recurrent planning and practice.

EXHIBIT 4

Monitoring and Workload Management

학습 목표

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Why improve monitoring

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-

Monitoring Responsibility

Developing SOPs







Developing SOPs

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Developing SOPs

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Developing SOPs

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Training monitoring skills

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-

Practicing monitoring skills

-

-

Areas of Vulnerability

-
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-
-

Practicing monitoring skills

-

-

Practicing monitoring skills

-

-

Practicing monitoring skills



Summary







狀況認識 (Situational Awareness)

상황 인식

- 주변에서 일어나는 상황을 인지하여
이를 정확히 이해하고 수용하며
뒤이어 발생할 결과를 예측 하는 것

Situational Awareness

SA is the accurate perception of the factors and conditions that affect the aircraft and the flight crew during a specific period of time. *More simply, it is knowing what is going on around you at all times and what is going to happen*. There is direct relationship between SA and safety. Simply stated, flight crews with higher level of SA are safer pilots.

상황인식이 왜 중요한가 ?

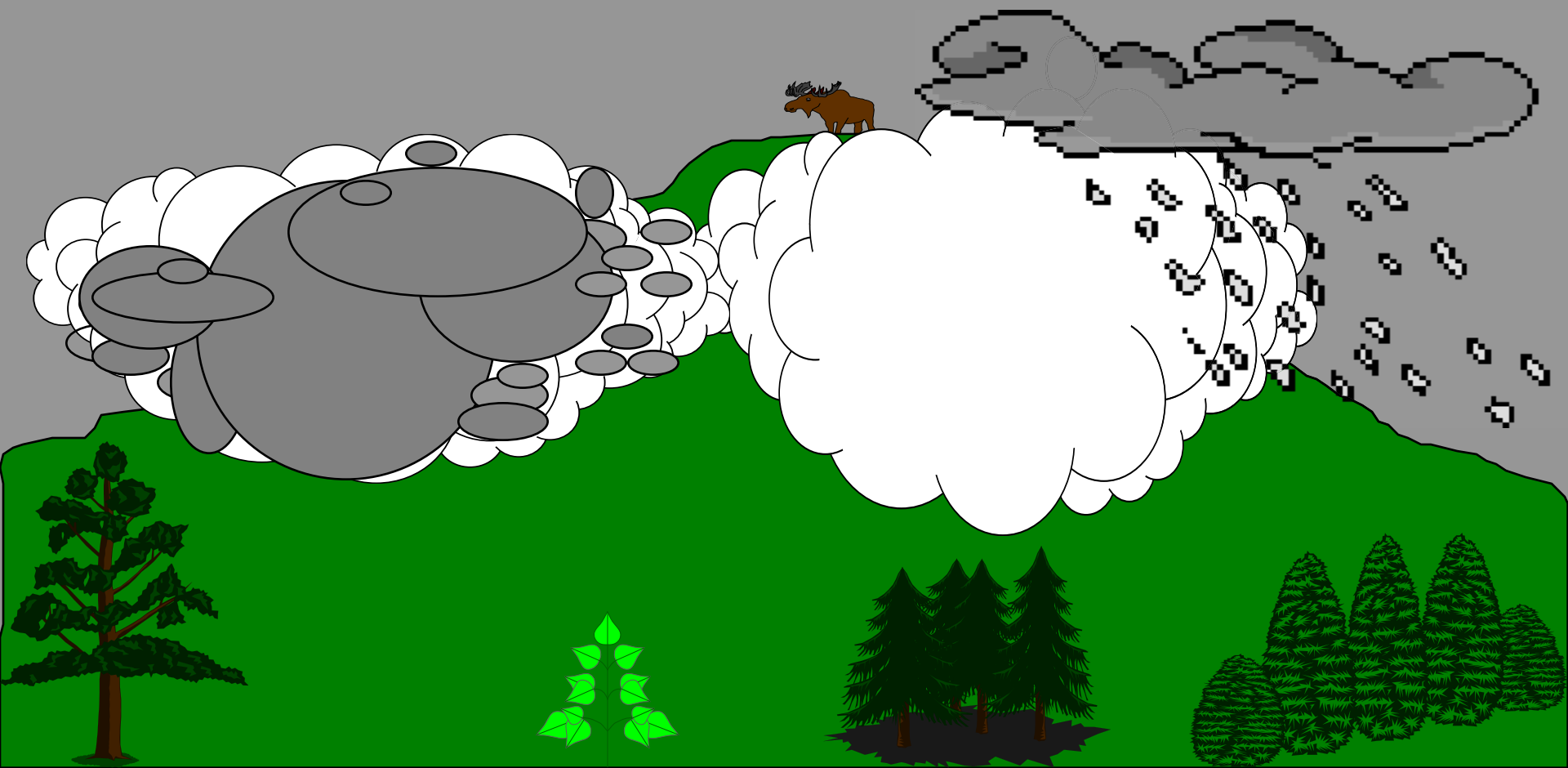
- 인적 요인의 사고 중 대부분이 상황인식
결여로 발생
- 정확한 상황인식 없이는 위급상황 시
최상의 의사결정 불가
- 최신장비의 항공기 우수한 승무원도
상황인식 결여 시 사고방지 불가

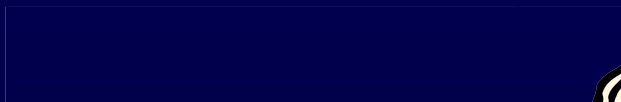
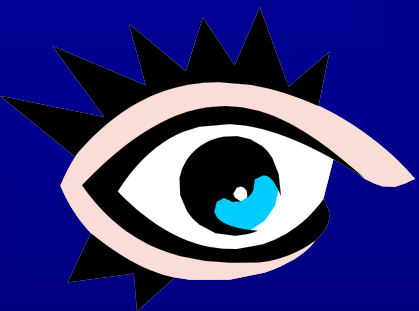
상황인식 결여에 의한 사고/준 사고

- 조사
의
년 건의 사고 중 건 _____
- 국내항공
인적 요인 건 중 건 _____



**Captain.. What's a
mountain goat doing
way up here in the
cloud?**





AA Flight 965



- Date: 20 December 1995
- Airline: American Airlines
- Flight No.: 965
- Aircraft: B757-200
- Location: CALI, Colombia
- Night,
- Fatalities: 159

AA965 History of flight

→ DEC 20, 1995, at 1835 (STD: 1640)

→ Miami, FL

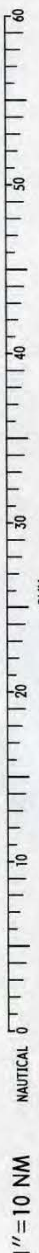
→ B757-200

→ 2/6/155 on board

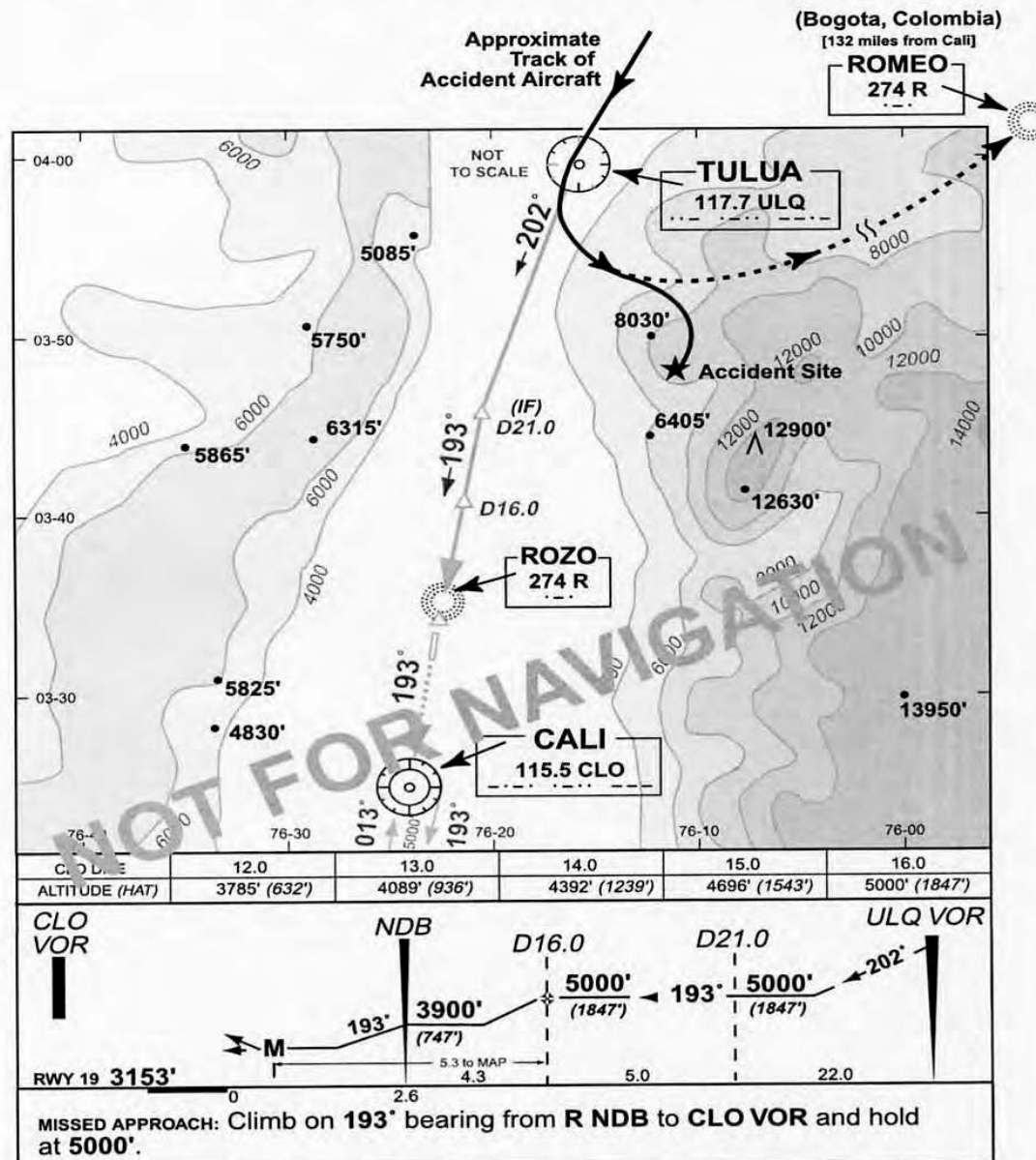
163 onboard
159 fatal
4 injured

→ at 21:42 PM,
→ Cali, Columbia





Approximate Track of Flight 965, Cali, Colombia, on Dec. 20, 1995



VOR = very high frequency omnidirectional radio range DME = distance measuring equipment

Note: This is a composite of materials for illustration purposes.

Source: Aeronáutica Civil of the Republic of Colombia, U.S. National Transportation Safety Board and Jeppesen Sanderson

-

-

- 대책

THREATS - AA 965

- Night
- Delayed Takeoff
- Late runway change
- Unfamiliar Airport
- Operational Pressure
- Equipment
- Jeppeson arrival chart
- Procedure (Hand on the speed-brake lever)

ERRORS- AA 965

- *No indication of landing briefing*
- *High vertical profile*
- *Lack of attention flying the aircraft
(Overreliance on automation)*
- *Selection of wrong WPT and Lack of
confirmation = incorrect FMC input*
- *Standard Callout (speed brake)*
- *Respond to GPWS*
- *Spoilers not retracted*
- *Lack of SA*

끝

감사합니다

상황 인식의 단계

문제인식

현재 나타나고 있는 문제가 무엇인가에
대한 인식

초보자들은 대부분 이 부분에 집중 이상
상황인식 에러 유발 요인

문제의 이해

문제가 무엇이며 왜 발생 했는가에 대해 이해
상황인식 에러 유발 요인

예측 및 문제 해결

문제에 대한 해결 방안 및 미래 예측

상황인식 결여의 징후

- 낮은 스트레스 수준
- 높은 스트레스 수준
- 애매 모호함
- 혼돈 또는 미 해결된 모순
- 주시 또는 몰두
- 미 준수
- 계획된 목표와 불일치

상황인식의 장애요소

- 고정관념
- 주의산만
- 기대심리
- 지식부족
-
- 복합적 상황
- 시간의 제한성
- 주위의 방해

상황인식 저해요소

- 승무원 요인
- 환경적 요인
- 문화적 요인

승무원 요인

- 비행지식 및 기량
- 비행준비 상태
- 피로
- 수면부족

환경적 요인

- 기압 산소 습도
- 밀폐된 공간
- 복잡한 계기
- 불규칙한 식사시간
- 시차에 따른 수면주기

문화적 요인

- 국가 문화
- 조직 문화
- 직업 문화

국가 문화

- 권위주의

기장 가부장적 로서 상황인식 주도
부기장 상황인식을 기장에게 의존

- 체면

기장 상황인식 오류를 불인정
부기장 문제 제기나 주장을 꺼림

조직문화

- 더 이상 압박감
- 더 이상

직업문화

- 조종사의 비현실적 태도
- 스트레스에 대한 주관적 평가

상황인식 관리될 수 있나?

- 높은 상황인식능력은 효과적 관리를 통해 얻어짐
- 개인의 상황인식을 의 상황인식으로 승화
- 전 비행구간에 걸쳐 높은 수준의 상황 인식을 유지 할 수 있도록 승무원간의 적극적 의사소통 및 협동

개인의 상황인식 관리

- 지식 및 기량
- 철저한 비행준비
- 최상의 건강 상태 유지
- 주의집중 및 분배
- 문제인식 및 의문 제기

Group 상황인식 관리

- 주의집중 주의분배 사전계획
- 각 승무원의 상황인식 능력 파악
- 비행상황의 철저한 감시
- 효율적 의사소통을 위한 분위기 조성
- 적극적 의사소통 및 승무원 협동
- 정확한 상황인식을 위한 업무분담

상황인식 잘 할 수 있는 요건

- 경험
- 훈련
- 비행기술
- 공간적 위치파악
- 개인적 태도
- 조종실 관리기술
- 감성적 신체적 조건
- 정보 조사 및 분석능력

상황인식 잘 할 수 있는 방법

- 비행지식 및 기량을 높게 유지
- 및 규정 준수
- 고정관념 탈피 주의분배
- 역할과 책임 분담
- 항상 항공기를 조종 및 감시
- 운항 중 항상 건전한 의문을 가질것

결론

- 상황에 대한 인식은 닥칠 와 회
피 및 제거를 위한 선행조건
- 비행 중 의 상황인식 유지
상황인식 저해요인 극복
상황인식 관리
- 안전한 조종사가 되자

끝

감사합니다

EXHIBIT 5

ASIANA AIRLINES

A STAR ALLIANCE MEMBER



AUTOMATION Dependency

우 항 후련 팀

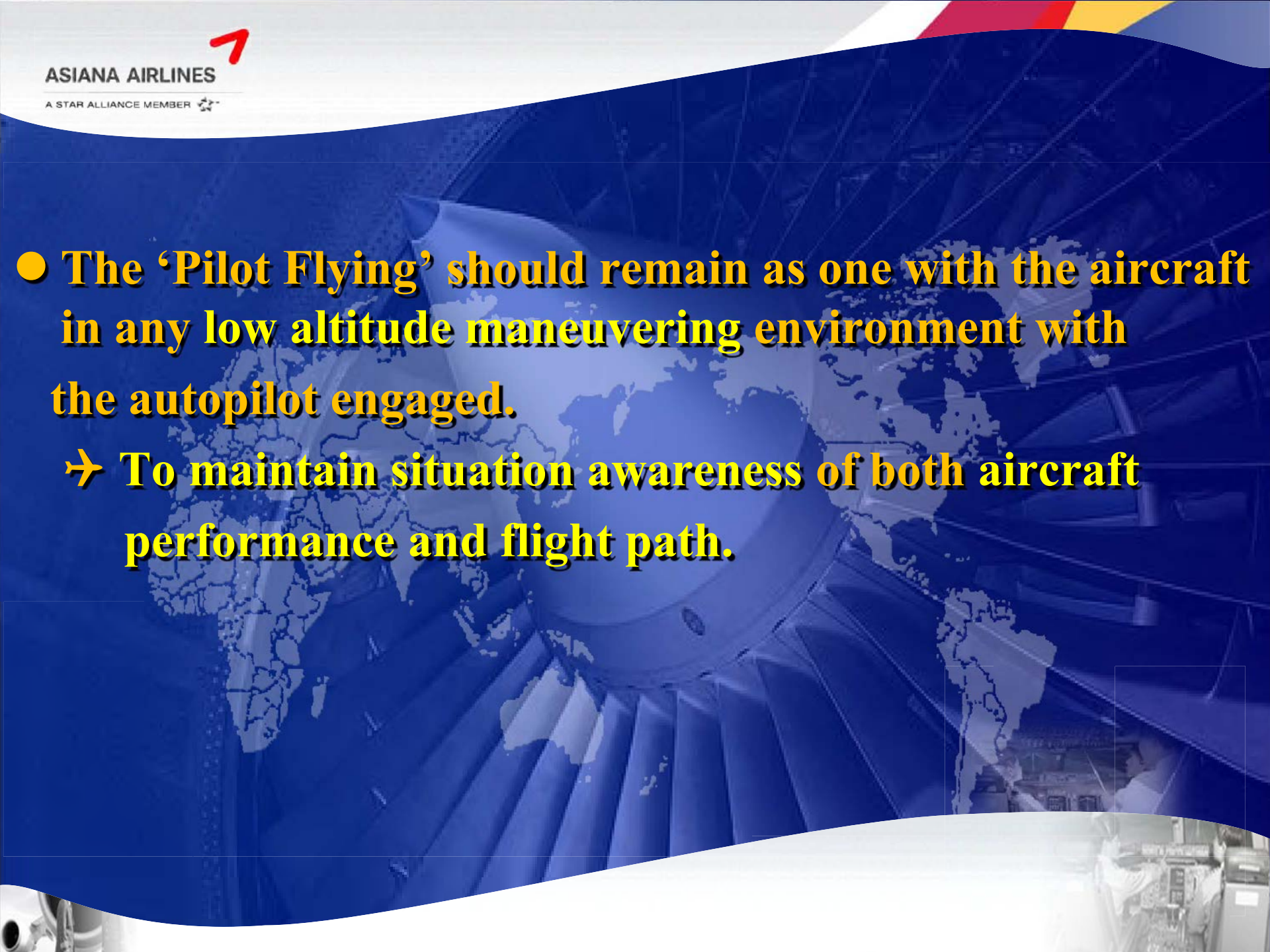
토 의

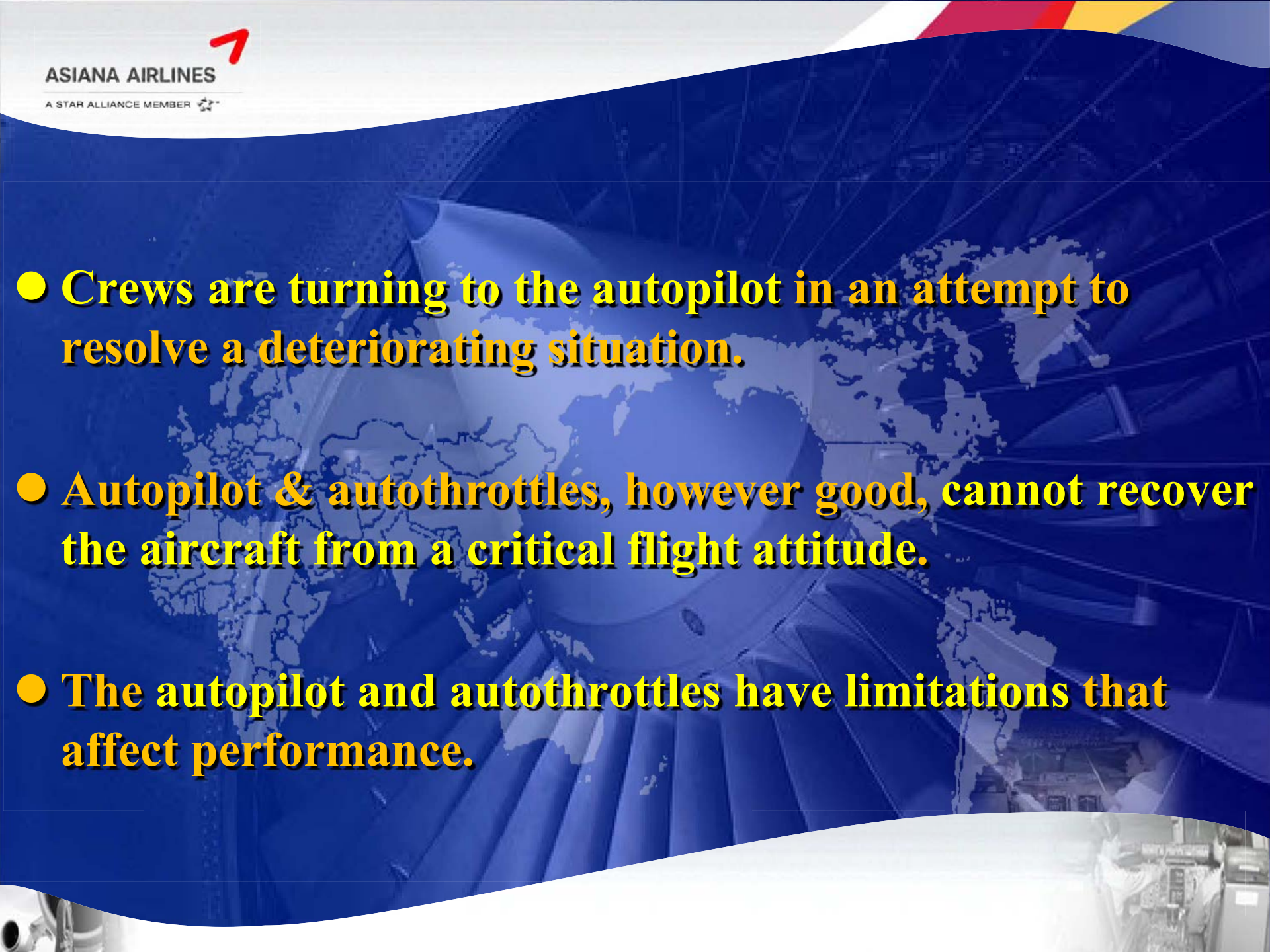
은 어떤 것인가

긍정적인 점과 부정적인 점

상황 변화 시 을 이용하는
조종사의 마음 자세와 대처해야 할 점

- **Levels of automation / technology judgment**
 - ➔ **Select the appropriate level for the task.**
 - **High Level : Auto Landing , Vnav**
 - **Medium Level : Auto FLT, TH, Lnav,**
 - **Low Level : Auto TH**
- **Loss of situation awareness**
- **Lower levels of automation should lower work load in a changing environment**

- 
- The ‘Pilot Flying’ should remain as one with the aircraft in any low altitude maneuvering environment with the autopilot engaged.
 - ➔ To maintain situation awareness of both aircraft performance and flight path.

- 
- Crews are turning to the autopilot in an attempt to resolve a deteriorating situation.
 - Autopilot & autothrottles, however good, cannot recover the aircraft from a critical flight attitude.
 - The autopilot and autothrottles have limitations that affect performance.

● **Disconnect autopilot & autothrottles to maintain control and extract max aircraft performance for**

- ❖ **Unusual attitude recovery**
- ❖ **Windshear / Microburst**
- ❖ **High altitude upset**
- ❖ **GPWS – mode 2 ‘Terrain’ warning**
- ❖ **Engine failure at low altitude / low energy state**
- ❖ **Flight instrument malfunctions**
- ❖ **Air collision avoidance**



“Fly the airplane first”

- **We’re Captains & pilots, not automation managers.**
- **Pilot flying devotes attention primary to maintaining the intended vertical & lateral flight path.**
- **When A/P is not maintaining intended flight path**
 - ➔ **A/P and A/T – Disconnect.**
 - ◆ **Terrain , traffic , approach parameters , etc**
 - ◆ **Don’t try to resolve ‘ mode confusion ’**

Cockpit instrumentation:

Information presented in a manner that the operators “minds eye” perceives it.



LIMITATIONS

“Automation cannot do what a human can: plan, oversee, reflect and make intelligent, creative decisions in the face of uncertainty, and make passengers (and air carrier management, and the FAA) feel comfortable about air transportation.”

Charles E. Billings in “Aviation automation

The search for a Human-Centered approach”

ASIANA AIRLINES

A STAR ALLIANCE MEMBER



EXHIBIT 6

FAA Flight Test Response Item (RI) Report

(requires closure prior to Type Certification)

Administrative Information

Project Title: Certification of 787-8 with RR/GE engines

FAA RI#: 12 Date entered: 09/01/2010 Author: John Hed Phone: 425-917-6518

Project #: PS06-0413/0414 Test Date: 08/30/2010 Test # (e.g. 007-02) 002-13
A/C Ser #: ZA005 A/C Type: 787-8 (GE) A/C Regis #: N787FT

FAA Pilot: Arnold FAA FTE: Hed Applicant Pilot: Bryan Applicant FTE: Finn

Response Item Details

Test Plan/Test Item: C1.35.0037 STALLS W/ ARTIFICIAL ICE

Condition #: non-condition Time discovered (24 hr): Unknown Time Type: ☐ Local ☐ IRIG
☐ Zulu ☐ Other

Response Item Title: Autothrottle does not wake up when in Thrust Hold mode

Full Description:

When in a descent such as FLCH with autothrottle in THR HOLD mode, and the descent has to be manually interrupted for something such as traffic alert, the autothrottle will stay in THR HOLD mode and will not wake up when it does when you capture the original altitude. The speed will decrease well past maneuvering speed.

Associated EICAS messages or fault annunciations? None

Applicable regulation for non-compliance (if known):

Level (click here for definitions):

- ☒ CI (Cert Issue)
- ☐ CC (Cert Concern)
- ☐ Rec
- ☐ Note

Response Item Status (click here for help):

- ☐ Open
- ☒ Closed
- ☐ Defer to Long Term List (eg: IOU)
- ☐ FAA Internal use only

Tracking Section

Submitted to Applicant? ☒ Yes ☐ No Applicant tracking # (opt'l):

Action for: ☒ Applicant ☐ FAA

FAA Focal: Arnold Phone: 425-917-6516

Applicant Focal: Phone:

Updates (use this format: "[DATE/Author], updated information, responses, notes, closure status, etc")

Update 7/14/11: Email from Outside Scope of Request

John,

Below is the response from engineering re regarding to RI-12.

Please let me know if we can close this RI or if you think we need to have a meeting to discuss this further.

Thanks,

Outside Scope of Request

From: Outside Scope of Request
Sent: Wednesday, July 13, 2011 8:58 AM
To: Outside Scope of Request
Cc: Outside Scope of Request
Subject: RE: Action | 787-8 Open FAA Response Items

Outside Scope of Request here is my response to 787-8 RI-12 (AT does not wake up in Thrust Hold mode):

"When in a descent such as FLCH with autothrottle in THR HOLD mode, and the descent has to be manually interrupted for something such as traffic alert, the autothrottle will stay in THR HOLD mode and will not wake up when it does when you capture the original altitude. The speed will decrease well past maneuvering speed."

The Autothrottle operation is unchanged from the 747, 767, and 777 baselines and similar or the same operation would be witnessed on those programs. In FLCH mode the speed is controlled by the elevator. The A/T will remain in that mode until either the intended altitude is acquired (and A/T and Autopilot transitions out of FLCH to SPD and ALT HOLD) or the crew selects another pitch mode (VNAV, V/S, ALT HOLD). If the maneuver were interrupted by the flight crew it is expected they would select a different pitch mode from the current flight level change mode, perhaps selecting Altitude Hold.

Outside Scope of Request

8/10/11 Update: email from Outside Scope of Request pointing to FCOM info: See FCOM page 9.20.10 that describes Stall Protection and how autothrottle comes alive to protect stick shaker and amber band.

E. Arnold FAA e-mail - 8/13/11

Discussion regarding RI-12 - Autothrottle Does Not Wake Up When in Thrust Hold Mode

FAA RI Write-up - When in a descent such as FLCH with autothrottle in THR HOLD mode, and the descent has to be manually interrupted for something such as traffic alert, the autothrottle will stay in THR HOLD mode and will not wake up when it does when you capture the original altitude. The speed will decrease well past maneuvering speed.

Similar EASA (ii) MAJOR RECOMMENDATIONS FOR IMPROVEMENT #3 - Autothrottle Wake-Up, speed protection feature: The "authrottle wake up" feature has been considered by the certification team as a system improving significantly the safety of the aircraft to be certified. It protects the aircraft not only against stall but also against low energy states, anticipating on the stick shaker triggering. Unfortunately there are on the B787 (as well as some other previous Boeing models) at least two automation modes (FLCH in descent and VNAV speed in descent, with ATHR on HOLD) for which the "Authrottle Wake up" function is not operative and therefore does not protect the aircraft. Although the certification team accepts that this "Authrottle wake up" feature is not required per certification requirements, these two exceptions look from a pilot's perspective as an inconsistency in the automation behaviour of the airplane. Inconsistency in automation behaviour has been in the past a strong contributor to aviation accidents. The manufacturer would enhance the safety of the product by avoiding exceptions in the "Autothrottle wake up" mode condition.

Boeing Response to EASA 787 Validation Debrief Note (Action Item 01-050811-04)

The Autothrottle will not wakeup in V_{NAV} Speed and FLCH modes. EASA noted that they request to see these conditions in the CAB. EASA also noted that they will transfer this to Flight Standards.

16 2.053

Boeing Response to FAA (from e-mail below)

RI 12 ---> Document: EASA Panel Validation Visit dated May 7th - May 22 : Action # : 01-050811-04 (Boeing to clarify whether there are any conditions where the Autothrottle won't wake up.)

Regarding to RI 12: There is a note in FCOM regarding to this. P 9.20.11 as a note.

787 FCOM Note on Flight Controls/System Description on page 9.20.11 (Stall Protection Discussion)

Note: When the pitch mode is FLCH or TOGA, or the airplane is below 400 feet after takeoff, or below 100 feet radio altitude on approach, the autothrottle does not automatically engage.

Note: During a descent in VNAV SPD, the autothrottle may activate in HOLD mode and does not support stall protection.

787 AFM Discussion on the Issue - NONE Yet (Latest AFM Provided to FAA - 8 July 2011)

RI Status - Still OPEN

The note in the FCOM is not as specific as it could be when addressing the concerns raised by the FAA and EASA. A note should be included in the AFM under the Autoflight section stating something to the effect of the following "During descent, when the pitch mode is FLCH, the autothrottle does not wake up, even during large deviations from MCP target speed."

Outside Scope of Request e-mail - 8/14/11

On FLCH, with the Autopilot engaged, at low speed, the autopilot will adjust the pitch to control to Top of Amber band. The same with F/D : F/D will command a nose down to control to Top of Amber band.

If the F/D command is ignored or the autopilot is not adequately protecting the speed, a mode fail will occur and we will get the "Autopilot" caution and also a "beeper" will sound and Master caution light would lit up.

We have demonstrated the FLCH Min Speed protection on ZA001.

Boeing EDT - 8/16/11

Note added to the AUTOPILOT - FLIGHT DIRECTOR SYSTEM (AFDS) section (Normal Procedures) after "Offset Instrument Approaches"

Note: During a descent in flight level change (FLCH) mode or vertical navigation speed (VNAV SPD) mode, the autothrottle may activate in HOLD mode and does not support stall protection.

RI Status - CLOSED / AFM Action Still OPEN

The above proposed AFM Note does not fully address this Response Item. Recommend that the sentence read as follows - "Note: During a descent in flight level change (FLCH) mode or vertical navigation speed (VNAV SPD) mode, the autothrottle may activate in HOLD mode. When in HOLD mode, the autothrotle will not wake up even during large deviations from target speed, and does not support stall protection." Additionally, the proposed location under Autoflight after "Offset Instrument Approaches" appears to be an inappropriate place for the note. It would be better placed under a discussion on "Descent" or "Autothrottle". Boeing is requested to propose a more suitable location for this note in the AFM.

This RI is closed. The action now falls to the AFM group to insure that this note is appropriately added to the AFM. The FAA strongly encourages Boeing to implement an FMCS system enhance in some future FCMS software release that would allow autothrottle wake up during large excursions from target speed.

EXHIBIT 7

Murky Mode

Boeing defends design philosophy for 777 autothrust mode

John Croft **Washington**

Boeing is vigorously defending an automation design that appears to be at the center of the accident investigation of an Asiana Airlines Boeing 777-200ER. On July 6, the aircraft crashed on approach to San Francisco International Airport.

The issue relates to the interaction between the 777's auto-flight and auto-thrust modes, in particular the flight-level-change (FLCH) speed mode that typically is used for varying the aircraft's vertical speed between two altitudes. Boeing does not recommend using FLCH during the final phases of an instrument approach, but does not address what modes pilots should use during a visual approach.

During an investigative hearing on Dec. 11, the National Transportation Safety Board revealed that the Asiana pilots on the visual arrival to Runway 28L that morning had selected FLCH for the final portion of the descent. By design, the FLCH mode allows the autothrust system to enter into a "hold" or "sleep" state during descents if pilots manually move the throttle levers for more than 1.2 sec. Flight recorder data show that the pilots did retard the throttle levers after entering FLCH. For practically all other autoflight modes, the autothrottle will reengage, or "wake up" and command thrust if speeds get too low.

In the Asiana crash, the left-seat pilot turned off the autopilot and was hand-flying the aircraft for the final portion of the approach, but descended below the airport's precision-approach-path indicator and tried to climb. He told investigators he expected the autothrottle would keep the aircraft from going "below minimum speed," which it did not. Despite a full-thrust and a go-around initiated seconds before impact, the 777's tail hit the seawall ahead of the runway. Three passengers were killed and nearly 200 passengers and crew injured in the accident.

Aviation Week reported soon after the crash that the lack of an autothrottle wake-up capability in FLCH was a known problem in the industry; it is sometimes referred to as the FLCH "trap." Boeing states it is unaware of the expression.

Company officials tell the NTSB that some concerns about the lack of a wake-up function were raised during the 787 certification program, but that there have been no reports

of in-service events regarding the mode in other Boeing aircraft, nor have operators asked for a change to the mode.

"We were conducting a flight test [during the 787 certification program], and there was a FLCH initiated," says Stephen Boyd, manager of the FAA's airplane and flight-crew interface branch. "The FLCH was interrupted by another event, in this case there was a traffic-avoidance event, and as a result of the logic of the airplane, the autothrottle went into a hold mode." Boyd says an FAA pilot noticed airspeed was decaying, and allowed it to "decay further" to see what would happen. "Our test pilot was expecting at that time [that] the autothrottle would wake up, not realizing that the autothrottle system was on [but in hold mode]," says Boyd. The FAA raised the issue with Boeing as a "Response Item," a process the agency uses "to document a potential concern and to get a response from the applicant," he says.

The FAA ultimately concluded that it was not a safety issue, and additional information about the hold mode was added to the flight manual. Boeing says the same basic information has been included in 777 manuals for 15 years. "In the end when he understood that this design has 210 million flight hours, he felt it was not as critical an issue," says John Cashman, retired chief test pilot for Boeing, of the FAA test pilot's concerns.

The European Aviation Safety Agency, during its evaluation of the 787, also questioned whether it was wise to include an autothrottle mode that differs from other modes in that it does not provide low-speed protection. "Inconsistency in automation behavior has been, in the past, a strong contributor to aviation accidents," the regulator said.

Despite no formal complaints to Boeing, incidents have occurred and are known to the pilot community. An Asiana Airlines ground school instructor who helped train the accident pilot, told the NTSB at the start of the investigation that he had discussed "the fact that when the 777 autothrottle mode goes to 'hold,' it will not automatically reengage when in a descent using the FLCH speed mode." He says he emphasizes this in training because he had "personally experienced, in flight, an unexpected activation of [the mode] and thus the failure of the autothrottle to reengage."

Boeing says it considered changing the mode to automatically wake up. Bob Myers, flight deck chief engineer, says—for this particular design—they were faced with a choice. "If we did a wake-up or some sort of mode transition of the autothrottle and hold mode for a low-speed condition, we would have had a mode transition without the pilots authorizing that change." He says the change would have resulted in two systems trying to control speed—the autopilot and the autothrottle. "We looked at the two situations and felt that the less confusing was the design we chose." ☐

Mode confusion may explain why Asiana Airlines Flight 214 pilots lost speed awareness on approach to San Francisco International Airport last July.



REUTERS/LANDOV FILE PHOTO

AviationWeek.com/awst

AVIATION WEEK & SPACE TECHNOLOGY/DECEMBER 16, 2013 37

EXHIBIT 8

March 12, 2014

**TRANSLATION OF
STATEMENT OF CAPTAIN LEE KANG KUK**

I am Captain Lee Kang Kuk. I was the pilot flying on Asiana flight 214 during the accident at San Francisco on July 6, 2013.

After the accident, I participated in two interviews conducted by NTSB investigators in San Francisco.

I am making this statement because I have noticed certain characterizations of my interview, including at the December investigative hearing and in press reports, that do not capture my intended meaning.

The report of my interview included my use of the English word “stressful.” I am not fluent in English. I had understood the word “stressful” in English to refer to situations involving the state of being alert and attentive. I understood it to mean the opposite of the state of being relaxed.

Only after reading news articles about the accident did I realize that the English word “stressful” can refer to situations of being anxious or worried. That was not my meaning when I was interviewed.

/s/ Captain Lee Kang Kuk

EXHIBIT 9

I UNITED STATES OF AMERICA XI
DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

IV NAME
KANG KUK LEE

V ADDRESS
SEOUL 156-871
REPUBLIC OF KOREA

VI NATIONALITY REPUBLIC OF KOREA **SEX** HEIGHT WEIGHT HAIR EYES
IVa D.O.B. 1967 **M** 57 163 BLACK BROWN

IX HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF
AIRLINE TRANSPORT PILOT

CERTIFICATE NUMBER
DATE OF ISSUE 16 SEP 2009

ADMINISTRATOR

I. REPUBLIC OF KOREA

II. TITLE OF LICENSE:
AIRLINE TRANSPORT PILOT

III. SERIAL NO. OF THE LICENSE :

IV. NAME : LEE KANG KUK

IVa. DATE OF BIRTH: 1967

V. ADDRESS:
SEOUL

VI. NATIONALITY: Republic of Korea

X. DATE OF ISSUE: JUN 04, 2013

IX. THIS LICENSE HOLDER HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF THE LICENSE IN ACCORDANCE WITH AVIATION ACT.

VIII. CHAIRMAN OF TRANSPORTATION SAFETY AUTHORITY.

KANG KUK LEE 2504140

XII RATINGS

AIRLINE TRANSPORT PILOT
AEROPLANE/MULTI-ENGINE LAND
PRIVATE PRIVILEGES
AEROPLANE SINGLE ENGINE LAND
ENGLISH PROFICIENT. XIII LIMITATIONS

VI SIGNATURE OF HOLDER



XII. RATINGS
AEROPLANE/MULTI-ENGINE LAND, I.F.R.(AEROPLANE),
A320,B737,B747-400,B777

XIII. REMARKS
- LEVEL OF LANGUAGE PROFICIENCY(VALID DATE):
LEVEL 4 (~SEP 15, 2015)
- LIMITATIONS:

VII. SIGNATURE OF HOLDER



B7,B747-400.